

TeSys™ D-Line

Contactors, Enclosed Starters, Overload Relays, and Accessories

Catalog

04

File 8502



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TeSys™ D-Line Contactors and Starters

General Information

The D-line contactors and overload relays are the largest selling line of contactors and starters in the world. They offer high reliability with long mechanical and electrical life and the most complete line of accessories in the industry.

Contactor Ratings

- D-line contactors and overload relays are available in 11 contactor ratings for the USA market for inductive motor applications up to 150 full-load amps and resistive loads up to 200 A. They offer motor control and overload protection for motors rated up to 100 hp at 480 Vac or 125 hp at 600 Vac.
- 3-pole and 4-pole contactor versions available.
- All contactors include built-in auxiliary contacts.
- All screw connections have IP20 rated touch-safe terminals with both North American and International terminal markings.
- D-line contactors can be panel mounted with screws or DIN rail mounted.

Easily Installed Accessories

- Auxiliary contact blocks with serrated wiping action
- Front mount dust tight auxiliary contact blocks
- Pneumatic time delay blocks
- Transient voltage surge suppressors
- Interface modules and electronic timers
- Mechanical latching blocks

Control Circuit Flexibility

The D-line contactors are available with ac or dc operating coils. Several devices utilize a low-consumption dc coil with built-in transient suppression for operation with a low-level dc signal from a computer or PLC without need for an interposing relay.

Overload Relays

Class 10 or Class 20 bimetallic overload relays are available up to 140 A. They are bimetallic ambient compensated and are available with or without single-phase sensitivity for phase unbalance and phase loss protection. New solid state overload relays are available for 90 to 150 A applications. Both bimetallic and solid-state overload relays include the following features:

- Isolated N.C. trip contact and N.O. alarm contacts.
- Manual or Automatic reset function (bi-metallic versions only).
- Tamper-resistant window for FLA settings.
- Test trip button.

TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

Environment

Type			LC1D09	LC1D12	LC1D18	LC1D25	
			LC1DT20	LC1DT25	LC1DT32	LC1DT40	
Rated insulation voltage (Vi)	UL/CSA	V	690	690	690	690	
	To IEC 60947-4-1, overvoltage category III, degree of pollution: 3	V	1000	1000	1000	1000	
	Conforming to UL, CSA	V	600	600	600	600	
Rated impulse withstand voltage (Vimp)	Conforming to IEC 60947	kV	6	6	6	6	
Conforming to standards	 Meets the essential requirements of the LV & EMC directives		IEC 60947-1, 60947-4-1, NFC 63-110, VDE 0660, BS 5424, JEM 1038., EN 60947-1, EN 60947-4-1.				
Approvals	 E164862 CCN NLDX	 LR43364 Class 3211 04	ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI, Conforming to SNCF, Sichere Trennung recommendations				
Degree of protection ♦	Conforming to VDE 0106	Power connections	Protection against direct finger contact IP 2X				
		Coil connections	Protection against direct finger contact IP 2X				
Protective treatment	Conforming to IEC 60068		"TH"				
Ambient air temperature around the device	Storage		- 60 to + 80 °C (-76 to +176 °F)				
	Operation at 80 to 110% nominal control voltage		- 5 to + 60 °C (+23 to +140 °F)				
	Permissible at nominal control voltage		- 40 to + 70 °C (-40 to +158 °F)				
Maximum operating altitude	Without derating		3000m (8900 ft.)				
Operating positions	Without derating		± 30° possible, in relation to normal vertical mounting plane				
Flame resistance	Conforming to UL 94		V 1	V1	V1	V1	
	Conforming to IEC 60695-2-1		960°	960°	960°	960°	
Shock resistance ▲ 1/2 sine wave = 11ms	Contacteur open		10 g	10 g	10 g	8 g	
	Contacteur closed		15 g	15 g	15 g	15 g	
Vibration resistance ▲ 5 to 300 Hz	Contacteur open		2 g	2 g	2 g	2 g	
	Contacteur closed		4 g	4 g	4 g	4 g	
Pole characteristics							
Number of poles			3	3 or 4	3	3 or 4	
Rated operational current (Ie)	In ac-3, θ ≤ 55°C (131°F)	A	9	12	18	25	
	In ac-1, θ ≤ 40°C (104°F)	A	25	25	32	40	
Rated operational voltage (Ve)	Up to	V	690	690	690	690	
Frequency limits	Of the operational current	Hz	25 to 400	25 to 400	25 to 400	25 to 400	
Rated thermal current (Ith)	θ ≤ 40°C (104°F)	A	25	25	32	40	
Rated making capacity (1 rms)	Conforming to IEC 60947-4	A	250	250	300	450	
Rated breaking capacity (1 rms)	Conforming to IEC 60947	220-380-415-440 V	A	250	250	300	450
		500 V	A	175	175	250	400
		690 V	A	85	85	120	180
Permissible short time rating from cold state, no current flowing for previous 15 minutes, at θ ≤ 40 °C (104 °F)	For 1 s	A	210	210	240	380	
	For 10 s	A	105	105	145	240	
	For 1 min	A	61	61	84	120	
	For 10 min	A	30	30	40	50	
Short-circuit protection	By circuit breaker		Select circuit breaker in accordance with NEC and local codes				
	By fuses		Maximum 400% of motor full load Amps				
Average impedance per pole	A Ith and 50 Hz	mΩ	2.5	2.5	2.5	2	
Power dissipation per pole for the above operational currents	AC-3	W	0.20	0.36	0.8	1.25	
	AC-1	W	1.56	1.56	2.5	3.2	




♦ Protection provided for the cable c.s.a. indicated on page 86 and for cable connections.

▲ In the least favorable direction, without change of contact state (coil supplied at Ve).

TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

Environment

Type			LC1D32	LC1D38	LC1D40	LC1D50	LC1D65	LC1D80	LC1D95	LC1D115	LC1D150
					LP1D40	LP1D50	LP1D65	LP1D80			
Rated insulation voltage (Vi)	UL/CSA	V	690	690	690	690	690	690	690	690	690
	To IEC 60947-4-1, overvoltage category III, degree of pollution: 3	V	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Conforming to UL, CSA	V	600	600	600	600	600	600	600	600	600
Rated impulse withstand voltage (Vimp)	Conforming to IEC 60947	kV	6	6	8	8	8	8	8	8	8
Conforming to standards	 Meets the essential requirements of the LV & EMC directives		IEC 60947-1, 60947-4-1, NFC 63-110, VDE 0660, BS 5424, JEM 1038., EN 60947-1, EN 60947-4-1.								
Approvals	 E164862 CCN NLDX	 LR43364 Class 3211 04	ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI, Conforming to SNCF, Sichere Trennung recommendations	-	UL 508, CSA C22.2 No.14						
Degree of protection ♦	Conforming to VDE 0106	Power connections	Protection against direct finger contact IP 2X								
		Coil connections	Protection against direct finger contact IP 2X except LP1D40 to LP1D80								
Protective treatment	Conforming to IEC 60068		"TH"								
Ambient air temperature around the device	Storage		- 60 to + 80 °C (-76 to +176 °F)								
	Operation at 80 to 110% nominal control voltage		- 5 to + 55 °C (+23 to +131 °F)								
	Permissible at nominal control voltage		- 40 to + 70 °C (-40 to +158 °F)								
Maximum operating altitude	Without derating		3000m (8900 ft.)								
Operating positions	Without derating		± 30° possible, in relation to normal vertical mounting plane								
Flame resistance	Conforming to UL 94	V 1	V 1	V 1	V 1	V 1	V 1	V 1	V 1	V 1	V 1
	Conforming to IEC 60695-2-1	960°	960°	960°	960°	960°	960°	960°	960°	960°	960°
Shock resistance ▲ 1/2 sine wave = 11ms	Contact open	8 g	8 g	8 g	8 g	8 g	8 g	8 g	8 g	6 g	6 g
	Contact closed	15 g	10 g	10 g	10 g	10 g	10 g	10 g	10 g	15 g	15 g
Vibration resistance ▲ 5 to 300 Hz	Contact open	2 g	2 g	2 g	2 g	2 g	2 g	2 g	2 g	2 g	2 g
	Contact closed	4 g	4 g	3 g	3 g	3 g	3 g	3 g	3 g	4 g	4 g
Pole characteristics											
Number of poles			3	3	3 or 4	3	3 or 4	3 or 4	3	3 or 4	3
Rated operational current (Ie)	In ac-3, θ ≤ 55°C (131°F)	A	32	38	40	50	65	80	95	115	150
	In ac-1, θ ≤ 40°C (104°F)	A	50	50	60	80	80	125	125	200	200
Rated operational voltage (Ve)	Up to	V	690	690	1000	1000	1000	1000	1000	1000	1000
Frequency limits	Of the operational current	Hz	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400
Rated thermal current (Ith)	θ ≤ 40°C (104°F)	A	50	50	60	80	80	125	125	200	200
Rated making capacity (1 rms)	Conforming to IEC 60947-4	A	550	-	800	900	1000	1100	-	-	-
Rated breaking capacity (1 rms)	Conforming to IEC 60947	220-380-415-440 V	550	-	800	900	1000	1100	-	-	-
		500 V	450	-	800	900	1000	1100	-	-	-
		690 V	180	-	400	400	630	640	-	-	-
Permissible short time rating from cold state, no current flowing for previous 15 minutes, at θ ≤ 40 °C (104 °F)	For 1 s	A	430	430	720	810	900	990	1100	1100	1400
	For 10 s	A	260	310	320	400	520	640	800	950	1200
	For 1 min	A	138	150	165	208	260	320	400	550	580
	For 10 min	A	60	60	72	84	110	135	135	250	250
Short-circuit protection	By circuit breaker		Select circuit breaker in accordance with NEC and local codes								
	By fuses		Maximum 400% of motor full load Amps								
Average impedance per pole	A Ith and 50 Hz	mΩ	2	2	1.5	1.5	1	0.8	0.8	0.6	0.6
Power dissipation per pole for the above operational currents	AC-3	W	2	2	2.4	3.7	4.2	5.1	7.2	7.9	13.5
	AC-1	W	5	5	5.4	9.6	6.4	12.5	12.5	24	24

♦ Protection provided for the cable c.s.a. indicated on page 86 and for cable connections.

▲ In the least favorable direction, without change of contact state (coil supplied at Ve).

TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

Control Circuit Characteristics

Type				LC1D09	LC1D12	LC1D18	LC1D25	LC1D32	LC1D38
				LC1DT20	LC1DT25	LC1DT32	LC1DT40		
Rated control circuit voltage (Vc)		50 or 60 Hz		V				21 to 660	
Control voltage limits ($\theta \leq 55\text{ °C}$ [131 °F])	50 or 60 Hz coils	Operational		0.8 to 1.1 Vac				0.8 to 1.1 Vac	
		Drop-out		0.3 to 0.6 Vac				0.3 to 0.6 Vac	
	50/60 Hz coils	Operational		0.85 to 1.1 Vac at 60 Hz				0.85 to 1.1 Vac at 60 Hz	
		Drop-out		0.3 to 0.6 Vac				0.3 to 0.6 Vac	
Average consumption at 20 °C (68 °F) and at Vc	50 Hz ac	Inrush	50 Hz coil	VA	–	–	–	–	–
			Cos φ		0.75	0.75	0.75	0.75	0.75
			50/60 Hz coil	VA	70	70	70	70	70
		Sealed	50 Hz coil	VA	–	–	–	–	–
			Cos φ		0.3	0.3	0.3	0.3	0.3
			50/60 Hz coil	VA	7	7	7	7	7
	60 Hz ac	Inrush	60 Hz coil	VA	–	–	–	–	–
			Cos φ		0.75	0.75	0.75	0.75	0.75
			50/60 Hz coil	VA	70	70	70	100	70
		Sealed	60 Hz coil	VA	–	–	–	–	–
			Cos φ		0.3	0.3	0.3	0.3	0.3
			50/60 Hz coil	VA	7.5	7.5	7.5	7.5	7.5
Heat dissipation	50/60 Hz		W	2 to 3	2 to 3	2 to 3	2.5 to 3.5	2 to 3	2 to 3
Operating time	Closing "C" ■		ms	12 to 22	12 to 22	12 to 22	15 to 24	12 to 22	12 to 22
	Opening "O" ▲		ms	4 to 19	4 to 19	4 to 19	5 to 19	4 to 19	4 to 19
Mechanical durability in millions of operating cycles	50 or 60 Hz coil			–	–	–	–	–	–
	50/60 Hz coil at 50 Hz			15	15	15	15	15	15
Maximum operating rate at ambient temperature $\leq 55\text{ °C}$ (131 °F)	In operating cycles per hour			3600	3600	3600	3600	3600	3600

■ The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles.

▲ The opening time "O" is measured from the moment the coil supply is switched off to the moment the mains poles separate.

TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

Control Circuit Characteristics

Type			LC1D40	LC1D50	LC1D65	LC1D80	LC1D95	LC1D115	LC1D150		
Rated control circuit voltage (Vc)	50 or 60 Hz	V	24 to 660						24 to 500		
Control voltage limits ($\theta \leq 55\text{ °C}$ [131 °F])	50 or 60 Hz coils	Operational	0.85 to 1.1 Vac						-		
		Drop-out	0.3 to 0.6 Vac						0.3 to 0.5 Vc		
	50/60 Hz coils	Operational	0.85 to 1.1 Vac at 60 Hz				0.8 to 1.15 Vac at 50/60 Hz				
		Drop-out	0.3 to 0.6 Vac						0.3 to 0.5 Vac		
Average consumption at 20 °C (68 °F) and at Vc	50 Hz ac	Inrush	50 Hz coil	VA	200	200	200	200	200	300	-
			Cos ϕ		0.75	0.75	0.75	0.75	0.75	0.8	0.9
			50/60 Hz coil	VA	245	245	245	245	245	280-350	280-350
		Sealed	50 Hz coil	VA	20	20	20	20	20	22	-
			Cos ϕ		0.3	0.3	0.3	0.3	0.3	0.3	0.9
			50/60 Hz coil	VA	26	26	26	26	26	2 to 18	2 to 18
	60 Hz ac	Inrush	60 Hz coil	VA	220	220	220	220	220	300	-
			Cos ϕ		0.75	0.75	0.75	0.75	0.75	0.8	0.9
			50/60 Hz coil	VA	245	245	245	245	245	280-350	280-350
		Sealed	60 Hz coil	VA	22	22	22	22	22	22	-
			Cos ϕ		0.3	0.3	0.3	0.3	0.3	0.3	0.9
			50/60 Hz coil	VA	26	26	26	26	26	6	6
Heat dissipation	50/60 Hz	W	6 to 10	6 to 10	6 to 10	6 to 10	6 to 10	2 to 18	2 to 18		
Operating time	Closing "C" ■	ms	20 to 26	20 to 26	20 to 26	20 to 35	20 to 35	20 to 50	20 to 35		
	Opening "O" ▲	ms	8 to 12	8 to 12	8 to 12	6 to 20	6 to 20	6 to 20	40 to 75		
Mechanical durability in millions of operating cycles	50 or 60 Hz coil		16	16	16	10	10	8	-		
	50/60 Hz coil at 50 Hz		6	6	6	4	4	8	8		
Maximum operating rate at ambient temperature $\leq 55\text{ °C}$ (131 °F)	In operating cycles per hour		3600	3600	3600	3600	3600	2400	1200		

■ The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles.

▲ The opening time "O" is measured from the moment the coil supply is switched off to the moment the mains poles separate.

TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

DC Control Circuit Characteristics

Type of contactor			LC1 D09 to D38 DT20 to DT40	LP1 D12 and D25	LC1 or LP1 D40 to D65	LC1 or LP1D80	LC1D115 & LC1D150	
Rated control circuit voltage (Uc)	dc	V	12 to 440		12 to 440		24 to 440	
Rated insulation voltage	Conforming to IEC 60947-1	V	690					
	Conforming to UL, CSA	V	600					
Control voltage limits	Operational	Standard coil	0.7 to 1.25 Uc at 60 °C (140 °F)	0.8 to 1.1 Uc @ 55 °C (131 °F)	0.85 to 1.1 Uc at 55 °C (131 °F)		0.75 to 1.2 Uc at 55 °C (131 °F)	
		Wide range coil	–	0.7 to 1.25 Uc @ 55 °C (131 °F)	0.75 to 1.2 Uc at 55 °C (131 °F)		–	
	Drop-out		0.1 to 0.25 Uc at 60 °C (140 °F)		0.1 to 0.3 Uc at 55 °C (131 °F)		0.15 to 0.4 Uc at 55 °C (131 °F)	
Average consumption at 20 °C (68 ° F) and at Uc	dc	Inrush	W	5.4	9/11	22	22	270 to 365
		Sealed	W	5.4	9/11	22	22	2.4 to 5.1
Average operating time at Uc (1)	Closing	"C"	ms	55	52 - 64	85 to 110	95 to 130	20 to 35
	Opening	"O"	ms	20	8 - 14	20 to 35	20 to 35	40 to 75
Note: The arcing time depends on the circuit switched by the poles. For normal three-phase applications, the arcing time is usually less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.								
Time constant (L/R)		ms	28	42	65	75	25	
Mechanical life at Uc	In millions of operating cycles		30	30	20	20	8	
Maximum operating rate at ambient temperature ≤ 60 °C (140 °F)	In operating cycles per hour		3600	3600	3600	3600	1200	

Low Consumption Control Circuit Characteristics

Rated insulation voltage	Conforming to IEC 60947-1	V	690	
	Conforming to UL, CSA	V	600	
Maximum voltage	Of the control circuit on dc		250	
Average consumption dc at 20 °C and at Uc	Wide range coil (0.7 to 1.25 Uc)	Inrush	W	2.4
		Sealed	W	2.4
Operating time (1) at Uc and at 20 °C (68 ° F)	Closing	"C"	ms	70
	Opening	"O"	ms	25
Voltage limits $\theta \leq 60$ °C (140 °F) of the control circuit	Operational		0.7 to 1.25 Uc	
	Drop-out		0.1 to 0.3 Uc	
Time constant (L/R)		ms	40	
Mechanical life	In millions of operating cycles		30	
Maximum operating rate	At ambient temperature ≤ 60 °C (140 °F)	ops/h	3600	
Rated insulation voltage	Conforming to UL, CSA	V	600	
	Conforming to IEC 60947-1	V	690	

- (1) Operating times depend on the type of contactor electromagnet and its control mode.
The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.

TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

Contactor Integral Auxiliary Contact Characteristics

Linked contacts conforming to draft standard IEC 60947-4-5	Each contactor has two N.O. and N.C. contacts mechanically linked on the same movable contact holder.		
Mirror contact	The N.C. contact on each contactor represents the state of the power contacts and can be connected to a PREVENTA safety module		
Rated operational voltage (Ue)	Up to	V	690
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	690
	Conforming to UL, CSA	V	600
Conventional thermal current (Ith)	For ambient temperature ≤ 60 °C (140 °F)	A	10
Operating current frequency		Hz	25 to 400
Minimum switching capacity	U min.	V	17
	I min.	mA	5
Short-circuit protection ●	Conforming to IEC 60947-5-1		gG fuse: 10 A
Rated making capacity	Conforming to IEC 60947-5-1, I rms	A	ac: 140; dc: 250
Short-time rating	Permissible for	1 s	A 100
		500 ms	A 120
		100 ms	A 140
Insulation resistance		MΩ	> 10
Non-overlap time	Guaranteed between N.C. and N.O. contacts	ms	1.5 on energizing and on de-energizing

- Select short circuit protection to meet the National Electrical Code or other local codes and standards.

ac supply categories AC-14 and AC-15

Contact operating power
conforming to IEC 60947-5-1

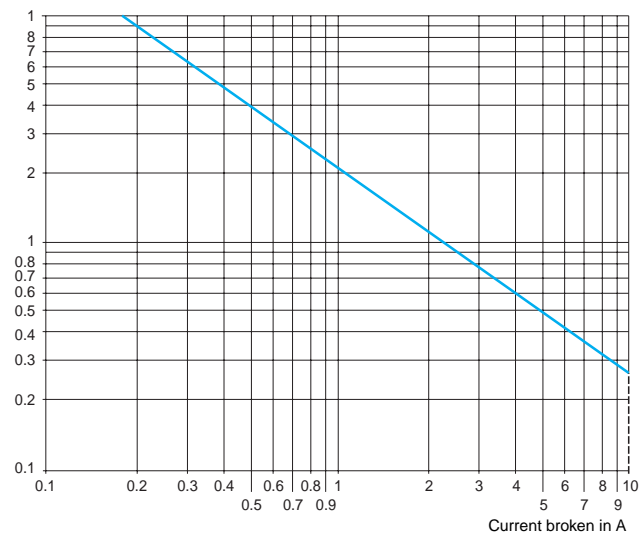
Electrical life (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making power (cos φ 0.7) = 10 times the power broken (cos φ 0.4).

dc supply category DC-13

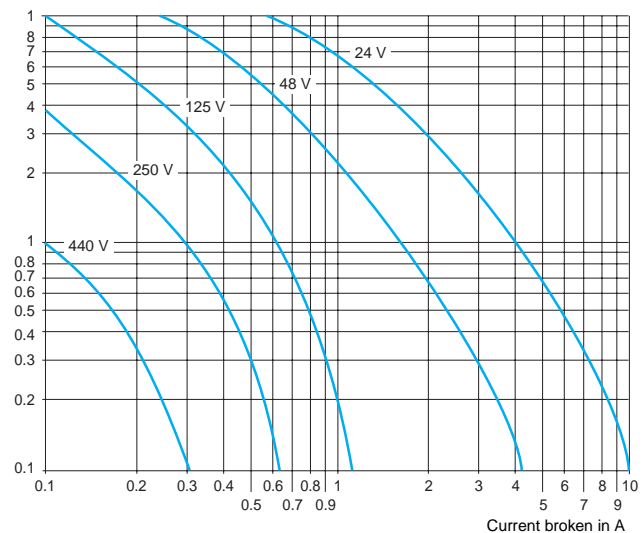
Electrical life (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.

	V	24	48	115	230	400	440	600	V	24	48	125	250	440
1 million operating cycles	VA	60	120	280	560	960	1050	1440	W	96	76	76	76	44
3 million operating cycles	VA	16	32	80	160	280	300	420	W	48	38	38	32	–
10 million operating cycles	VA	4	8	20	40	70	80	100	W	14	12	12	–	–

AC-15



DC-13



TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

Power Circuit Connections

Type			LC1 D09, D12 DT20, DT25	LC1D18 LC1DT32	LC1D25 LC1DT40	LC1D32	LC1D38	LC1D40 LP1D40	LC1D50 LP1D50	
Cabling (for screw clamp terminals)	Stranded cable without cable end	1 conductor	AWG	18-10	18-8	18-8	14-6	–	10-3	10-3
		2 conductors	AWG	18-10	18-8	18-8	14-6	–	10-4	10-4
		1 conductor	mm ²	1/4	1.5/6	1.5/10	2.5/10	2.5/10	2.5/25	2.5/25
		2 conductors	mm ²	1/4	1.5/6	1.5/6	2.5/10	2.5/10	2.5/16	2.5/16
	Stranded cable with cable end	1 conductor	AWG	18-10	18-3	18-3	18-3/0	–	10-4	10-4
		2 conductors	AWG	18-10	18-10	18-10	14-2	–	12-2	12-2
		1 conductor	mm ²	1/4	1/6	1/6	1/10	1/10	2.5/25	2.5/25
		2 conductors	mm ²	1/2.5	1/4	1/4	1.5/6	1.5/6	2.5/10	2.5/10
		1 conductor	AWG	18-8	18-8	18-8	14-8	–	10-3	10-3
		2 conductors	AWG	18-8	18-8	18-8	10-8	–	10-6	10-6
	Solid cable without cable end	1 conductor	mm ²	1/4	1.5/6	1.5/6	1.5/10	1.5/10	2.5/25	2.5/25
		2 conductors	mm ²	1/4	1.5/6	1.5/6	2.5/10	2.5/10	2.5/16	2.5/16
		Phillips head type		N° 2	N° 2	N° 2	N° 2	N° 2	–	–
	Screwdriver Ø		Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6 to Ø 8	Ø 6 to Ø 8	
	Hexagon spanner		–	–	–	–	–	4 mm	4 mm	
Tightening torque		15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	23 lb.-in. 2.5 N•m	23 lb.-in. 2.5 N•m	23 lb.-in. 2.5 N•m	45 lb.-in. 5 N•m	45 lb.-in. 5 N•m		
Bus bar connection (for bus bar or ring-tongue terminals)	Connection by bus bar or ring-tongue terminals									
	Bar c.s.a.		–	–	–	–	–	–	–	
	Lug external Ø	mm	8	8	10	10	10	13	16	
	Screw Ø	mm	M3.5	M3.5	M4	M4	M4	M5	M6	
	Phillips head type		N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 3	
	Screwdriver Ø		Ø 6	Ø 6	Ø 6	3/16 in. Ø 6 mm	3/16 in. Ø 6 mm	Ø 8 mm	Ø 8 mm	
	Hexagon spanner		–	–	–	–	–	–	–	
Tightening torque		15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	20 lb.-in. 7.5 N•m	20 lb.-in. 7.5 N•m	53 lb.-in. 6 N•m	71 lb.-in. 6 N•m		
Flexible cabling (for spring terminals)	Spring terminals									
	Flexible cable without cable end	1 conductor	AWG	14	12	12	12	12	–	–
		2 conductors	AWG	14	12	12	12	12	–	–
		1 conductor	mm ²	2.5	4	4	4	4	–	–
		2 conductors	mm ²	2.5	4	4	4	4	–	–

Control Circuit Connections

Type			LC1 D09, D12 DT20, DT25	LC1D18 LC1DT32	LC1D25 LC1DT40	LC1D32	LC1D38	LC1D40 LP1D40	LC1D50 LP1D50	
Connection by cable										
Screw clamp terminals										
Cabling	Stranded cable without cable end	1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)
		2 conductors	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)
	Stranded cable with cable end	1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)
		2 conductors	AWG (mm ²)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
	Solid cable without cable end	1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)
		2 conductors	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)
Phillips head type		N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2		
Screwdriver Ø	mm	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6		
Tightening torque		15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	17 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m		
Connection by bus bar or ring-tongue terminals										
Lug external Ø	mm	8	8	8	8	8	8	8		
Screw Ø	mm	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5		
Phillips head type		N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2		
Screwdriver Ø		3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6		
Tightening torque		15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m		

TeSys™ D-Line Contactors and Starters

Characteristics of Type LC•D and LP•D Contactors

Power Circuit Connections

Type				LC1D65 LP1D65	LC1D80 LP1D80	LC1D95	LC1D115	LC1D150	
Cabling (for screw clamp terminals)	Stranded cable without cable end	1 conductor	AWG	10-3	10-2	–	8-250 mcm	8-250 mcm	
		2 conductors	AWG	10-4	10-4	–	8-1+8-250 mcm ▲	8-1+8-250 mcm ▲	
	Stranded cable with cable end	1 conductor	mm ²	2.5/25	4/50	4/50	10/120	10/120	
		2 conductors	mm ²	2.5/16	4/25	4/25	10/120+ 10/50 ▲	10/120+ 10/50 ▲	
	Stranded cable with cable end	1 conductor	AWG	10-4	10-4	–	–	–	
		2 conductors	AWG	12-2	12-2	–	–	–	
	Stranded cable with cable end	1 conductor	mm ²	2.5/25	4/50	4/50	10/120	10/120	
		2 conductors	mm ²	2.5/10	4/16	4/16	10/120+ 10/50 ▲	10/120+ 10/50 ▲	
	Solid cable without cable end	1 conductor	AWG	10-3	10-3	–	8-250 mcm	8-250 mcm	
		2 conductors	AWG	10-6	10-2	–	8-0+ 8-250mcm ▲	8-0+8-250 mcm ▲	
	Solid cable without cable end	1 conductor	mm ²	2.5/25	4/50	4/50	10/120	10/120	
		2 conductors	mm ²	2.5/16	4/25	4/25	10/120+ 10/50 ▲	10/120+ 10/50 ▲	
	Phillips head type				–	–	–	–	–
	Screwdriver Ø				Ø 6 to Ø 8	Ø 6 to Ø 8	Ø 6 to Ø 8	–	–
	Hexagon spanner				4 mm	4 mm	4 mm	4 mm	4 mm
Tightening torque				45 lb.-in. 5 N•m	100 lb.-in. 11.3 N•m	100 lb.-in. 11.3 N•m	100 lb.-in. 11.3 N•m	100 lb.-in. 11.3 N•m	
Connection by bus bar or ring-tongue terminals									
Bar c.s.a.				–	3 x 16	3 x 16	5 x 25	5 x 25	
Lug external Ø				mm	16	17	25	25	
Screw Ø				mm	M6	M6	M8	M8	
Phillips head type				N° 3	–	–	–	–	
Screwdriver Ø				Ø 8 mm	Ø 8 mm	Ø 8 mm	–	–	
Hexagon spanner				–	10 mm	10 mm	13 mm	13 mm	
Tightening torque				71 lb.-in. 6 N•m	71 lb.-in. 8 N•m	71 lb.-in. 8 N•m	124 lb.-in. 14 N•m	124 lb.-in. 14 N•m	
Spring terminals									
Flexible cabling (for spring terminals)	Flexible cable without cable end	1 conductor	AWG	–	–	–	–	–	
		2 conductors	AWG	–	–	–	–	–	
	Flexible cable without cable end	1 conductor	mm ²	–	–	–	–	–	
		2 conductors	mm ²	–	–	–	–	–	

▲ One of each size range.

Control Circuit Connections

Type				LC1D65 LP1D65	LC1D80 LP1D80	LC1D95	LC1D115	LC1D150
Connection by cable								
Screw clamp terminals								
Cabling	Stranded cable without cable end	1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
		2 conductors	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
	Stranded cable with cable end	1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
		2 conductors	AWG (mm ²)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
	Solid cable without cable end	1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
		2 conductors	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
Phillips head type				N° 2	N° 2	N° 2	N° 2	N° 2
Screwdriver Ø				mm	Ø 6	Ø 6	Ø 6	Ø 6
Tightening torque				15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m
Connection by bus bar or ring-tongue terminals								
Lug external Ø				mm	8	8	8	8
Screw Ø				mm	M3.5	M3.5	M3.5	M3.5
Phillips head type					N° 2	N° 2	N° 2	N° 2
Screwdriver Ø					3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6
Tightening torque					15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m

TeSys™ D-Line Contactors and Starters

Selection of Contactors for Motor Control

The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

AC and DC Control Circuit — 3-pole Contactors with Touch-safe Terminals for Power Cabling (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3								Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ▼◆	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	N.O.		N.C.			
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575 V 600 V														
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	kW	kW	kW	kW	A					
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC1D09••	0.71 (0.320)	
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC1D12••	0.72 (0.325)	
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC1D18••	0.73 (0.330)	
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC1D25••	0.82 (0.370)	
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC1D32••	0.83 (0.375)	
Not for North American applications ■						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC1D38••	0.84 (0.380)	
3	5	10	10	30	30	40	11	18.5	22	22	22	30	22	40	1	1	LC1D40••	3.11 (1.400)	
3	7.5	15	15	40	40	50	15	22	25	30	30	33	30	50	1	1	LC1D50••	3.11 (1.400)	
5	10	20	20	50	50	65	18.5	30	37	37	37	37	37	65	1	1	LC1D65••	3.11 (1.400)	
7.5	15	25	30	60	60	80	22	37	45	45	55	45	45	80	1	1	LC1D80••	3.53 (1.590)	
Not for North American applications ■						95	25	45	45	45	55	45	45	95	1	1	LC1D95••	3.58 (1.610)	
—	—	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC1D115••	5.38 (2.420)	
—	—	40	50	100	125	150	40	75	80	80	90	100	90	150	1	1	LC1D150••	5.42 (2.440)	

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail **AM1DP** or screw mounting.
- For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail **AM1DE** or 75 mm DIN rail **AM1DL** or screw mounting.
- For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails **AM1DP** or screw mounting.
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- Devices are UL Listed at the same HP ratings as 32 and 80 amp devices, respectively.

LC1D09••



LC1D65••



LC1D150••



TeSys™ D-Line Contactors and Starters

Selection of Contactors for Motor Control

The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.



LC1D123••

AC and DC Control Circuit — 3-pole Contactors for Spring Terminal Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ▼◆	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		N.O.	N.C.		
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575 V 600 V													
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	kW	kW	kW	A					
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC1D093••	0.71 (0.320)
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC1D123••	0.72 (0.325)
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC1D183••	0.73 (0.330)
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC1D253••	0.82 (0.370)
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC1D323••	0.83 (0.375)
Not for North American applications ■						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC1D383••	0.84 (0.380)

- ◆ For **LC1D09** to **LC1D38**: clip-on mounting on 35 mm DIN rail **AM1DP** or screw mounting.
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- Device is UL Listed at the same HP ratings as 32 amp device.

TeSys™ D-Line Contactors and Starters

Selection of Contactors for Motor Control



The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

LC1D1506••

AC and DC Control Circuit — 3-pole Contactors for Ring-tongue Terminals or Bus Bar Power Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ◆▼	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		N.O.	N.C.		
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575 V 600 V													
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	kW	kW	kW	A					
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC1D096••	0.71 (0.320)
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC1D126••	0.72 (0.325)
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC1D186••	0.73 (0.330)
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC1D256••	0.82 (0.370)
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC1D326••	0.83 (0.375)
Not for North American applications ■						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC1D386••	0.84 (0.380)
3	5	10	10	30	30	40	11	18.5	22	22	22	30	22	40	1	1	LC1D406••	2.93 (1.320)
3	7.5	15	15	40	40	50	15	22	25	30	30	33	30	50	1	1	LC1D506••	2.93 (1.320)
5	10	20	20	50	50	65	18.5	30	37	37	37	37	37	65	1	1	LC1D656••	2.93 (1.320)
7.5	15	25	30	60	60	80	22	37	45	45	55	45	45	80	1	1	LC1D806••	3.55 (1.600)
Not for North American applications ■						95	25	45	45	45	55	45	45	95	1	1	LC1D956••	3.55 (1.600)
—	—	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC1D1156••	4.69 (2.110)
—	—	40	50	100	125	150	40	75	80	80	90	100	90	150	1	1	LC1D1506••	4.69 (2.130)

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
- For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- Devices are UL Listed at the same HP ratings as 32 and 80 amp devices, respectively.

AC and DC Control Circuit — 3-pole Contactors for Connection with Slip-on Connectors

For contactors LC1D09 and LC1D12 only, replace the last digit in the catalog numbers shown in the table above ("6") with a 9. For example, LC1D096•• becomes LC1D099••. These contactors include slip-on connectors: UL Recognized **E164862 NLDX2**, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.

TeSys™ D-Line Contactors and Starters

Selection of Contactors for Resistive Loads (AC-1) and Inductive Loads (AC-3)



LC1DT20**

AC and DC Control Circuit — 3- or 4-Pole Screw Terminal Connections (AC-1 Category)

Maximum Current Utilization Categories		Number of Poles		Instantaneous Auxiliary Contacts		Catalog Number ◆▼	Weight lb (kg)
AC-1	AC-3	N.O.	N.C.	N.O.	N.C.		
20	9	3	0	1	1	LC1D09**	0.71 (0.320)
		4	0	1	1	LC1DT20**	0.80 (0.365)
		2	2	1	1	LC1D098**	0.80 (0.365)
25	12	3	0	1	1	LC1D12**	0.75 (0.340)
		4	0	1	1	LC1DT25**	0.80 (0.365)
		2	2	1	1	LC1D128**	0.80 (0.365)
32	18	3	0	1	1	LC1D18**	0.79 (0.355)
		4	0	1	1	LC1DT32**	0.93 (0.425)
		2	2	1	1	LC1D188**	0.93 (0.425)
40	25	3	0	1	1	LC1D25**	0.82 (0.370)
		4	0	1	1	LC1DT40**	0.93 (0.425)
		2	2	1	1	LC1D258**	0.93 (0.425)
50	32	3	0	1	1	LC1D32**	0.83 (0.375)
		3	0	1	1	or ▲ LC1D38** ■	0.84 (0.380)
60	40	3	0	1	1	LC1D40**	3.11 (1.400)
		4	0	1	1	LC1D40004**	0.93 (0.425)
		2	2	1	1	LC1D40008**	0.93 (0.425)
		4	0	1	1	LP1D40004**	0.93 (0.425)
80	50	3	0	1	1	LC1D50**	3.22 (1.450)
		3	0	1	1	or ▲ LC1D65**	3.11 (1.400)
	65	4	0	0	0	LC1D65004**	3.20 (1.440)
		4	0	0	0	LP1D65004**	4.89 (2.220)
		2	2	0	0	LC1D65008**	3.22 (1.450)
125	80	3	0	1	1	LC1D80**	5.84 (2.650)
		3	0	1	1	or ▲ LC1D95** ■	3.55 (1.600)
	80	4	0	0	0	LC1D80004**	3.91 (1.760)
		4	0	0	0	LP1D80004**	4.87 (2.210)
		2	2	0	0	LC1D80008**	4.09 (1.940)
200	115	3	0	1	1	LC1D115**	5.84 (2.650)
	150	3	0	1	1	or ▲ LC1D150**	5.42 (2.440)
	115	4	0	0	0	LC1D115004**	6.35 (2.860)

AC and DC Control Circuit — 3- or 4-Pole Spring Terminal Connections (AC-1 Category)

20	9	3	0	1	1	◆	LC1D093**	0.710 (0.320)
		4	0	1	1	◆	LC1DT203**	0.837 (0.380)
		2	2	1	1	◆	LC1D0983**	0.837 (0.380)
25	12	3	0	1	1	◆	LC1D123**	0.710 (0.320)
		4	0	1	1	◆	LC1DT253**	0.840 (0.380)
		2	2	1	1	◆	LC1D1283**	0.840 (0.380)
32	—	3	0	1	1	◆	LC1D183**	0.730 (0.330)
	18	4	0	1	1	◆	LC1DT323**	0.940 (0.425)
	—	2	2	1	1	◆	LC1D1883**	0.940 (0.425)
40	—	3	0	1	1	◆	LC1D253**	0.820 (0.370)
	25	4	0	1	1	◆	LC1DT403**	0.940 (0.425)
	—	2	2	1	1	◆	LC1D2583**	0.940 (0.425)

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ◆ For LC1D09 to LC1D25: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- ▲ Select between the two shown based upon the number of operating cycles; see the AC-1 graph on page 22 for further information.
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- Devices are UL Listed at the same ratings as 32 and 80 amp devices, respectively.

TeSys™ D-Line Contactors and Starters

Resistive Loads (AC-1) and Inductive Loads (AC-3)



LC1D150●●

AC and DC Control Circuit — 3- or 4-pole Contactors For Ring Terminals or Bus Bar Power Connections (AC-1 category)

Maximum Current Utilization Categories		Number of Poles		Instantaneous Auxiliary Contacts		Catalog Number ♦ ▼	Weight lb (kg)
AC-1	AC-3	N.O.	N.C.	N.O.	N.C.		
20	9	3	0	1	1	LC1D096●●	0.71 (0.320)
		4	0	1	1	LC1DT206●●	0.80 (0.365)
		2	2	1	1	LC1D0986●●	0.80 (0.365)
25	12	3	0	1	1	LC1D126●●	0.75 (0.340)
		4	0	1	1	LC1DT256●●	0.80 (0.365)
		2	2	1	1	LC1D1286●●	0.80 (0.365)
32	18	3	0	1	1	LC1D186●●	0.79 (0.355)
		4	0	1	1	LC1DT326●●	0.93 (0.425)
		2	2	1	1	LC1D1886●●	0.93 (0.425)
40	25	3	0	1	1	LC1D256●●	0.82 (0.370)
		4	0	1	1	LC1DT406●●	0.93 (0.425)
		2	2	1	1	LC1D2586●●	0.93 (0.425)
50	32	3	0	1	1	LC1D326●●	0.83 (0.375)
		3	0	1	1	or ▲ LC1D386●● ■	0.84 (0.380)
60	40	3	0	1	1	LC1D406●●	3.11 (1.400)
		4	0	1	1	LC1D400046●●	0.93 (0.425)
		2	2	1	1	LC1D400086●●	0.93 (0.425)
		4	0	1	1	LP1D40004●●	0.93 (0.425)
80	80	2	2	1	1	LP1D40008●●	0.93 (0.425)
		3	0	1	1	LC1D656●●	3.11 (1.400)
		4	0	0	0	LC1D800046●●	3.20 (1.440)
		4	0	0	0	LP1D800046●●	4.89 (2.220)
125	80	2	2	0	0	LC1D800086●●	3.22 (1.450)
		2	2	0	0	LP1D800086●●	4.89 (2.220)
		3	0	1	1	LC1D806●●	3.53 (1.590)
		4	0	0	0	LC1D800046●●	3.91 (1.760)
200	115	4	0	0	0	LP1D800046●●	4.87 (2.210)
		2	2	0	0	LC1D800086●●	4.09 (1.940)
		2	2	0	0	LP1D800086●●	5.84 (2.650)
		3	0	1	1	LC1D95●● ■	3.55 (1.600)
200	115	3	0	1	1	LC1D1156●●	5.38 (2.420)
	150	3	0	1	1	or ▲ LC1D1506●●	5.42 (2.440)
	115	4	0	0	0	LC1D1150046●●	6.35 (2.860)

- ♦ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
- For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Select between the two shown based upon the number of operating cycles and control voltage; see the AC-1 graph on page 22 for further information.
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- Devices are UL Listed at the same ratings as 32 and 80 amp devices, respectively.

AC and DC Control Circuit — Contactors for Connection with Slip-on Connectors (3-pole only) AC-1 category

For contactors LC1D09 and LC1D12 only, replace the last digit in the catalog numbers shown in the table above ("6") with a 9. For example, LC1D096●● becomes LC1D099●●. These contactors include slip-on connectors: UL Recognized **E164862 NLDX2**, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.

TeSys™ D-Line Contactors and Starters

Selection of Reversing Contactors for Motor Control



The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

The contactors are pre-assembled, horizontally-mounted, and have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 3-pole Reversing Contactors with Touch-safe Terminals for Power Cabling (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ▲▼	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		N.O.	N.C.		
115/120 V	230/240 V	200/208 V	220/240 V	460/480 V	575 V 600 V	A	kW	kW	kW	kW	kW	kW	A					
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	–	9	1	1	LC2D09●▲●	1.55 (0.700)
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	–	12	1	1	LC2D12●▲●	1.55 (0.700)
1	3	5	5	10	15	18	4	7.5	9	9	10	10	–	18	1	1	LC2D18●▲●	1.670 (0.75)
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	–	25	1	1	LC2D25●▲●	2.44 (1.100)
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	–	32	1	1	LC2D32●▲●	2.67 (1.200)
Not for North American applications						38	9	18.5	18.5	18.5	18.5	18.5	–	38	1	1	LC2D38●▲●▶	2.67 (1.200)
3	5	10	10	30	30	40	11	18.5	22	22	22	30	–	40	1	1	LC2D40●▲	5.33 (2.400)
3	7.5	15	15	40	40	50	15	22	25	30	30	33	–	50	1	1	LC2D50●▲	5.33 (2.400)
5	10	20	20	50	50	65	18.5	30	37	37	37	37	–	65	1	1	LC2D65●▲	5.33 (2.400)
7.5	15	25	30	60	60	80	22	37	45	45	55	45	–	80	1	1	LC2D80●▲	7.11 (3.200)
Not for North American applications						95	25	45	45	45	55	45	–	95	1	1	LC2D95●▲▶	7.11 (3.200)
–	–	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC2D115■	14.44 (6.500)
–	–	40	50	100	125	150	40	75	80	80	90	100	90	150	1	1	LC2D150■	14.44 (6.500)

- ◆ For LC2D09 to LC2D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- For LC2D40 to LC2D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
- For LC2D115 and LC2D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Includes mechanical interlock without electrical contacts. Installer to complete wiring for electrically interlocking contactor operating coils by utilizing a N.C. auxiliary contact integrated in the contactor or optional LADN or LAD8N type auxiliary contact block.
- Included with electrical contacts integrated in mechanical interlock (type LA9D●●02).
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- For reversing contactors with electrical interlocking pre-wired at the factory, add suffix V to the catalog number reflected above. Example: LC2D09●● becomes LC2D09●●V.
- ▶ Devices are UL Listed at the same HP ratings as 32 and 80 amp devices, respectively.

TeSys™ D-Line Contactors and Starters

Selection of Reversing Contactors for Motor Control



The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

The contactors are pre-assembled, horizontally-mounted, and have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 3-pole Reversing Contactors for Spring Terminal Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3								Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ♦ ▼ *	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	N.O.		N.C.			
115/120 V	230/240 V	200/208 V	220/240 V	460/480 V	575 V 600 V	A	kW	kW	kW	kW	kW	kW	A						
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC2D093** ▲	1.55 (0.700)	
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC2D123** ▲	1.55 (0.700)	
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC2D183** ▲	1.670 (0.75)	
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC2D253** ▲	2.44 (1.100)	
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC2D323** ▲	2.67 (1.200)	
Not for North American applications						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC2D383** ▲ ●	2.67 (1.200)	

- ♦ For LC2D09 to LC2D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- ▲ Includes mechanical interlock without electrical contacts. Installer to complete wiring for electrically interlocking contactor operating coils by utilizing a N.C. auxiliary contact integrated in the contactor or optional LADN or LAD8N type auxiliary contact block.
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- * For reversing contactors with electrical interlocking pre-wired at the factory, add suffix V to the catalog number reflected above. Example: LC2D09** becomes LC2D09**V.
- LC2D38 is UL Listed at the same HP rating as the 32 amp device.

TeSys™ D-Line Contactors and Starters Selection of Reversing Contactors for Motor Control



LC2D186••

The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

The contactors have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 3-pole Reversing Contactors for Ring-tongue Terminals or Bus Bar Power Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3								Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ◆▼	Weight
1-phase 50/60 Hz		3-phase 50/60 Hz					Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Instantaneous Auxiliary Contacts			
115/120 V	230/240 V	200/208 V	220/240 V	460/480 V	575 V 600 V	A	220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	A	N.O.	N.C.	lb (kg)		
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC2D096•• ▲	1.55 (0.700)	
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC2D126•• ▲	1.55 (0.700)	
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC2D186•• ▲	1.67 (0.750)	
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC2D256•• ▲	2.44 (1.100)	
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC2D326•• ▲	2.67 (1.200)	
Not for North American applications						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC2D386•• ▲ ●	2.67 (1.200)	
—	—	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC2D1156•• ■ ▲	13.22 (5.950)	
—	—	15	15	40	40	150	40	70	80	80	90	100	90	150	1	1	LC2D1506•• ■ ▲	13.22 (5.950)	

- ◆ For **LC2D09** to **LC2D38**: clip-on mounting on 35 mm DIN rail **AM1DP** or screw mounting.
For **LC2D115** and **LC2D150**: clip-on mounting on 2 x 35 mm DIN rails **AM1DP** or screw mounting.
- ▲ Includes mechanical interlock without electrical contacts. Installer to complete wiring for electronically interlocking contactor operating coils by utilizing a N.C. auxiliary contact integrated in the contactor or optional **LADN** or **LAD8N** type auxiliary contact block.
- Included with electrical contacts integrated in mechanical interlock (type **LA9D••02**).
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.
- LC2D386 devices are UL Listed at the same HP rating as the 32 amp device.

AC and DC Control Circuit — 3-pole Reversing Contactors for Connection with Slip-on Connectors (AC-3 category)

For contactors **LC2D09** and **LC2D12** only, replace the last digit in the catalog numbers shown in the table above ("6") with a 9. For example, **LC2D096••** becomes **LC2D099••**. These contactors include slip-on connectors: UL Recognized **E164862 NLDX2**, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.

Power connections are to be made by the customer.

TeSys™ D-Line Contactors and Starters


Selection of Changeover Contactors for Resistive Loads (AC-1) and Inductive Loads (AC-3)



LC2DT20**

The contactors have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 4-pole Changeover Contactors with Touch-safe Terminals for Power Cabling (AC-1 category)

Maximum Current Utilization Categories		Instantaneous Auxiliary Contacts 		Catalog Number ◆ ▼	Weight
AC-1	AC-3	N.O.	N.C.		lb (kg)
20	9	1	1	LC2DT20** ▲	1.60 (0.730)
25	12	1	1	LC2DT25** ▲	1.55 (0.700)
32	18	1	1	LC2DT32** ▲	1.86 (0.450)
40	25	1	1	LC2DT40** ▲	2.43 (1.100)
60	40	1	1	LC2D40004** ▲	5.30 (2.400)
		1	1	LP2D40004** ▲	5.30 (2.400)
80	65	–	–	LC2D65004** ▲	7.07 (3.200)
		–	–	LP2D80004** ▲	7.07 (3.200)
125	80	–	–	LC2D80004** ▲	7.07 (3.200)
		–	–	LP2D80004** ▲	7.07 (3.200)
200	115	–	–	LC2D115004** ■	16.0 (27.250)

◆ For LC2D12 and LC2D25: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.

For LC2D40 to LC2D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.

For LC2D115: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.

▲ Includes mechanical interlock (type LA9**D978) without electrical contacts. Installer to complete wiring for electronically interlocking contactor operating coils by utilizing a N.C. auxiliary contact integrated in the contactor or optional LA1DN or LA8DN type auxiliary contact block.

■ Includes mechanical interlock (Type LA9D11502) with pre-wired electrical contacts for interlocking contactor operating coils.

▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.

TeSys™ D-Line Contactors and Starters

Selection of Changeover Contactors for Resistive Loads (AC-1) and Inductive Loads (AC-3)

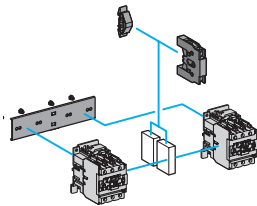
AC and DC Control Circuit— 4-pole Changeover Contactors with Ring-tongue Terminal or Bus Bar Power Connection (AC-1 category)

Maximum Current Utilization Categories		Instantaneous Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb (kg)
		N.O.	N.C.		
AC-1	AC-3				
20	9	1	1	LC2DT206** ▲	1.60 (0.730)
25	12	1	1	LC2DT256** ▲	1.55 (0.700)
32	18	1	1	LC2DT326** ▲	1.86 (0.450)
40	25	1	1	LC2DT406** ▲	2.43 (1.100)
60	40	1	1	LC2D400046** ▲	5.30 (2.400)
		1	1	LP2D400046** ▲	5.30 (2.400)
80	65	–	–	LC2D650046** ▲	7.07 (3.200)
		–	–	LP2D800046** ▲	7.07 (3.200)
125	80	–	–	LC2D800046** ▲	7.07 (3.200)
		–	–	LP2D800046** ▲	7.07 (3.200)
200	115	–	–	LC2D1150046** ■	16.0 (27.250)

- ◆ For LC2D12 and LC2D25: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
For LC2D40 to LC2D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
For LC2D115: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Includes mechanical interlock (Type LA9**D978) without electrical contacts. Installer to complete wiring for electronically interlocking contactor operating coils by utilizing a N.C. auxiliary contact integrated in the contactor or optional LA1DN or LA8DN type auxiliary contact block.
- Includes mechanical interlock (Type LA9D11502) with pre-wired electrical contacts for interlocking contactor operating coils.
- ▼ Use voltage codes on page 115 "Voltage Code Table" to complete catalog number.

TeSys™ D-Line Contactors and Starters

Component Parts for Reversing and Two Speed Contactors



LA9D4002

For 3-pole Motor Reversing Contactors

Contactors with Screw Clamp Terminals or Connectors Horizontally Mounted, Assembled by Customer

Using 2 Identical Contactors (1)	Set of Power Connections		Mechanical Interlock Kit	
	Catalog Number	Weight lb (kg)	Catalog Number	Weight lb (kg)

Including mechanical interlock and an electrical interlocking kit for the contactors

Power Connections for LC1D09 to D38

Use with screw terminal versions LC1D09 - LC1D38

Line Side (Parallel) Connector	LAD9V5	0.037 (0.17)	LAD9R1V (2)	–
Load Side (Reversing) Connector	LAD9V6	0.037 (0.17)	LAD9R1V (2)	–
Low Voltage Control Circuit Interlock	LAD9V1 (3)	0.037 (0.17)	LAD9R1V (2)	–

Use with spring terminal versions LC1D093 - LC1D383

When using Quick-Fit LAD34 and LAD33 Power Connectors

Line Side (Parallel) Connector	LAD9V10	0.037 (0.17)	LAD9V2	–
Load Side (Reversing) Connector	LAD9V11	0.037 (0.17)	LAD9V2	–

When using standard cable/wire

Line Side (Parallel) Connector	LAD9V12	0.037 (0.17)	LAD9V2	–
Load Side (Reversing) Connector	LAD9V13	0.037 (0.17)	LAD9V2	–

Including mechanical interlock with integral electrical interlocking

LC1D40 to D65	LA9D6569	0.290 (0.64)	LA9D4002	0.37 (0.170)
LC1D80 and D95 (ac)	LA9D8069	0.290 (0.64)	LA9D4002	0.37 (0.170)
LC1D80 and D95 (dc)	LA9D8069	0.490 (1.08)	LA9D8002	0.37 (0.170)
LC1D115 and D150	LA9D11569	1.450 (3.20)	LA9D11502	0.63 (0.290)

Including mechanical interlock without electrical interlocking

Power Connections for LC1D09 to D38

Line Side (Parallel) Connector	LAD9V5	0.045 (0.10)	LAD9R1 (2)	–
Load Side (Reversing) Connector	LAD9V6	0.045 (0.10)	LAD9R1 (2)	–
LC1D40 to D65	LA9D6569	0.290 (0.64)	LA9D50978	0.37 (0.170)
LC1D80 and D95 (ac)	LA9D8069	0.490 (1.08)	LA9D50978	0.37 (0.170)
LC1D80 and D95 (dc)	LA9D8069	0.490 (1.08)	LA9D80978	0.37 (0.170)

For Low Speed – High Speed Starter

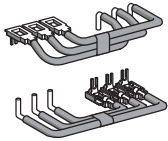
Description	For Contactors with Connections	Catalog Number	Weight lb (kg)
Connection kit enabling reversing of slow and high speed directions, using a reversing contactor and a 2 N.O. + 2 N.C. main pole contactor	Screw clamps or connectors	LA9D9PVG V	0.03 (0.016)
	Spring terminals	LAD3PVP G	0.15 (0.068)

(1) To order the 2 contactors: see pages 88, 89 and 90.

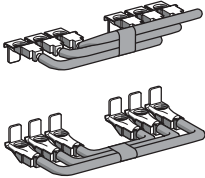
(2) Mechanical interlock kit includes line and load side power connectors, mechanical interlock, control circuit interlock (LAD9R1V only), and clip. Interlock only -- LAD9V2 (includes retaining clip). Retaining clip only -- W116430980111 (std. package of 10).

(3) There is no spring terminal equivalent for this part.

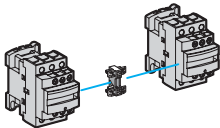
(4) Line side (parallel) connector: LAD9V5; load side (reversing) connector: LAD9V6.



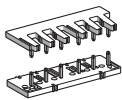
LA9D6569



LA9D8069



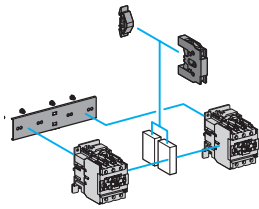
LAD9R1



Characteristics: pages 80 to 87 Dimensions, Schematics: pages 128, 129

TeSys™ D-Line Contactors and Starters

Component Parts for Assembling Changeover Contactor Parts for Distribution



LA9D4002

For 4-pole Changeover Contactor Pairs (3-phase distribution + neutral)

**Contactors with Screw Clamp Terminals or Connectors
Horizontally Mounted, Assembled by Customer**

Using 2 Identical Contactors (1)	Set of Power Connections		Mechanical Interlock	
	Catalog Number	Weight lb (kg)	Catalog Number of Kit	Weight lb (kg)

Including mechanical interlock and an electrical interlocking kit for the contactors

LC1DT20 to DT40	LADT9R1V (2)	0.088 (0.040)	–	–
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Including mechanical interlock with integral electrical interlocking

LC1D65004	LA9D6570	0.33 (0.150)	LA9D4002	0.37 (0.170)
LC1D80004	LA9D8070	0.62 (0.280)	LA9D4002	0.37 (0.170)
LP1D80004	LA9D8070	0.62 (0.280)	LA9D8002	0.37 (0.170)
LC1D115004	LA9D11570	2.43 (1.100)	LA9D11502	0.62 (0.280)

Including mechanical interlock without electrical interlocking

LC1DT20 to DT40 With screw clamp terminals or connectors	LADT9R1 (2)	0.08 (0.035)	–	–
LC1DT203 to DT403 With spring terminal connections	(4)	–	–	–
LC1 or LP1D65004	LA9D6570 (3)	0.33 (0.150)	LA9D50978	0.34 (0.155)
LC1D80004	LA9D8070 (3)	0.62 (0.280)	LA9D50978	0.34 (0.155)
LP1D80004	LA9D8070 (3)	0.62 (0.280)	LA9D80978	0.40 (0.180)

For 3-pole changeover contactor pairs

Including mechanical interlock with integral electrical interlocking

LC1D115 and D150	LA9D11571	2.12 (0.960)	LA9D11502	0.62 (0.280)
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(1) To order the two contactors: see page 91.

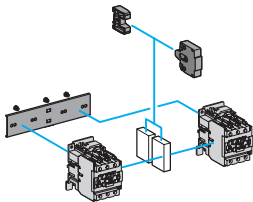
(2) Including mechanical interlock.

(3) Order two contact blocks LADN•1 to obtain electrical interlocking between the contactors, see page 106.

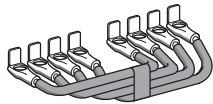
(4) To build a reversing contactor with spring terminal connections, the following components must be ordered in addition to the two contactors:

- 1 mechanical interlock LAD9V2,

- 1 downstream power connection kit LAD9V9



LA9D50978




LA9D8070

TeSys™ D-Line Contactors and Starters

Characteristics of Auxiliary Contacts, Timers, and Accessories

Auxiliary Contact Blocks without Dust and Damp Protected Contacts for Contactors

Environment

Contact block type			LADN or C	LADT and S	LADR	LAD8
Conforming to standards	CE Meets the essential requirements of the LV & EMC directives		IEC 60947-5-1, NF C 63-140, VDE 0660, BS 4794, EN 60947-5-1			
Product certifications			UL, CSA			
Protective treatment	Conforming to IEC 60068		"TH"			
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X			
Ambient air temperature around the device	Storage	°C	- 60 to + 80 (- 140 to + 176 °F)			
	Operation	°C	- 5 to + 60 (- 41 to + 140 °F)			
	Permissible for operation at U _c	°C	- 40 to + 70 (- 104 to + 158 °F)			
Maximum operating altitude	Without derating	m	3000			
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	mm ²	Min.: 1 x 1; max.: 2 x 2.5 (#10 AWG)			
Connection by spring terminals	Flexible or solid cable without cable end	mm ²	Max.: 2 x 2.5 (#10 AWG)			

Instantaneous and Time Delay Contact Characteristics

Number of contacts			1, 2 or 4	2	2	2
Rated operational voltage (U _e)	Up to	V	690			
Rated insulation voltage (U _i)	Conforming to IEC 60947-5-1	V	690			
	Conforming to UL, CSA	V	600			
Conventional thermal current (I _{th})	For ambient temperature ≤ 60 °C (140 °F)	A	10			
Frequency of operational current		Hz	25 to 400			
Minimum switching capacity	U min.	V	17			
	I min.	mA	5			
Short-circuit protection ●	Conforming to IEC 60947-5-1 and VDE 0660. gG fuse	A	10			
Rated making capacity	Conforming to IEC 60947-5-1, I rms	A	ac: 140; dc: 250			
Short-time rating	Permissible for:	1 s	A	100		
		500 ms	A	120		
		100 ms	A	140		
Insulation resistance		MΩ	> 10			
Non-overlap time	Guaranteed between N.C. and N.O. contacts	ms	1.5 (on energizing and on de-energizing)			
Overlap time	Guaranteed between N.C. and N.O. on LADC22	ms	1.5	–	–	–
Time delay (LADT, R and S contact blocks) Accuracy only valid for setting range indicated on the front face	Ambient air temperature for operation	°C	–	- 40 to + 70 (- 104 to + 158 °F)	- 40 to + 70 (- 104 to + 158 °F)	–
	Repeat accuracy		–	± 2%	± 2%	–
	Drift up to 0.5 million operating cycles		–	+ 15%	+ 15%	–
	Drift depending on ambient air temperature		–	0.25% per °C	0.25% per °C	–
Mechanical durability	In millions of operating cycles		30	5	5	30
Operational power of contacts			See page 101.			

- Select short circuit protection to meet the National Electrical Code or other local codes and standards.

Catalog Number: pages 107, 108

Dimensions: pages 122, 123

Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Characteristics of Auxiliary Contacts, Timers, and Accessories

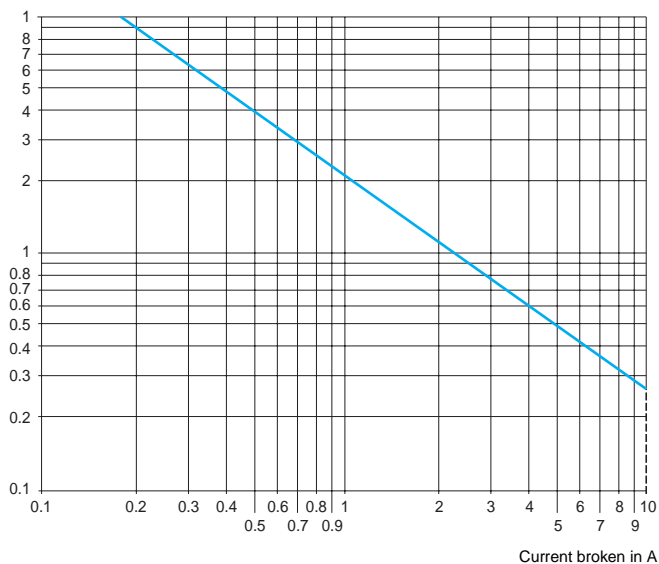
Auxiliary Contact Blocks with Dust and Damp Protected Contacts for Contactors

Operational Power of Contacts (conforming to IEC 60947-5-1)

AC supply, categories AC-14 and AC-15

Electrical durability (valid up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making power ($\cos \varphi 0.7$) = 10 times the power broken ($\cos \varphi 0.4$)

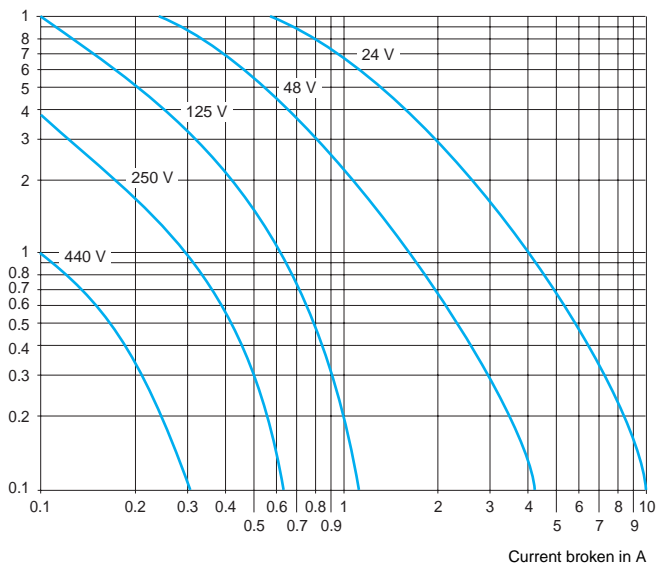
	V	24	48	115	230	400	440	600
1 million operating cycles	VA	60	120	280	560	960	1050	1440
3 million operating cycles	VA	16	32	80	160	280	300	420
10 million operating cycles	VA	4	8	20	40	70	80	100



DC supply, category DC-13

Electrical durability (valid up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the power.

	V	24	48	125	250	440
1 million operating cycles	W	120	90	75	68	61
3 million operating cycles	W	70	50	38	33	28
10 million operating cycles	W	25	18	14	12	10



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Dimensions: pages 122, 123




Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Characteristics of Auxiliary Contacts, Timers, and Accessories

Auxiliary Contact Blocks with Dust and Damp Protected Contacts for Contactors

Environment

Contact block type			LA1DX	LA1DZ		LA1DY
				protected	non protected	
Conforming to standards	 Meets the essential requirements of the LV & EMC directives		IEC 60947-5-1, VDE 0660			
Product certifications	 		UL, CSA			
Protective treatment	Conforming to IEC 60068		"TH"			
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X			
Ambient air temperature	Storage and operation	°C	- 25 to + 70 (- 77 to + 158 °F)			
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	mm ²	Min.: 1 x 1 Max.: 2 x 2.5			
Number of contacts			2	2	2	2

Contact Characteristics

Rated operational voltage (Ue)	Up to	V	50	50	690	24	
Rated insulation voltage (Ui)	Conforming to IEC 60947-5-1	V	250	250	690	250	
	Conforming to UL, CSA	V	–	–	600	–	
Conventional thermal current (Ith)	For ambient temperature ≤ 40 °C (104 °F)	A	–	–	10	–	
Maximum operational current (Ie)		mA	50	50	10	50	
Frequency of operational current		Hz	–	–	25 to 400	–	
Minimum switching capacity	U min.	V	3	3	17	3	
	I min.	mA	0.3	0.3	5	0.3	
Short-circuit protection ●	Conforming to IEC 60947-5-1. gG fuse	A	–	–	10	–	
Rated making capacity	Conforming to IEC 60947-5-1, I rms	A	–	–	ac: 140; dc: 250	–	
Short-time rating	Permissible for:	1 s	A	–	–	100	–
		500 ms	A	–	–	120	–
		100 ms	A	–	–	140	–
Insulation resistance		MΩ	> 10	> 10	> 10	> 10	
Mechanical durability	In millions of operating cycles		5	5	30	5	
Materials and technology used for dust and damp protected contacts			Gold - Single break with crossed bars	Gold - Single break with crossed bars	–	Gold - Single break with crossed bars	

- Select short circuit protection to meet the National Electrical Code or other local codes and standards.

Catalog Number: pages 107, 108

Dimensions: pages 122, 123




Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Characteristics of Auxiliary Contacts, Timers, and Accessories

Interface Modules for Contactors

Environment

Conforming to standards	 Meets the essential requirements of the LV & EMC directives		IEC 60255-5
Product certifications	 		UL, CSA
Protective treatment	Conforming to IEC 60068		"TH"
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Ambient air temperature around the device	Storage	°C	- 40 to + 80 (- 104 to + 176 °F)
	Operation	°C	- 25 to + 55 (- 77 to + 131 °F)
	Permissible for operation at Uc	°C	- 25 to + 70 (- 77 to + 158 °F)

Other Characteristics

Module type			LA4DFBQ	LA4DFB	LA4DFE	LA4DLB	LA4DLE	LA4DWB	
			With relay	With relay	With relay	With relay + override		Solid state	
Rated insulation voltage	Conforming to IEC 60947-1	V	5	250					
Rated operational voltage	Conforming to IEC 60947-1	V	415	250					
Indication of input state	By integral LED which illuminates when the contactor coil is energized								
Input signals	Control voltage (E1-E2)	V	dc 24	dc 24	dc 48	dc 24	dc 48	dc 24	
	Permissible variation	V	17 to 30	17 to 30	33 to 60	17 to 30	33 to 60	5 to 30	
	Current consumption at 20 °C (68 °F)	mA	25	25	15	25	15	8.5 for 5 V 15 for 24 V	
	State "0" guaranteed for	U	V	< 2.4	< 2.4	< 4.8	< 2.4	< 4.8	< 2.4
		I	mA	< 2	< 2	< 1.3	< 2	< 1.3	< 2
State "1" guaranteed for	U	V	17	17	33	17	33	5	
Built-in protection	Against reverse polarity		By diode						
	Of the input		By diode						
Electrical durability at 220/240 V	In millions of operating cycles		3	10	10	3	3	20	
Maximum immunity time to micro-breaks		ms	4	4	4	4	4	1	
Power dissipated	At 20 °C (68 °F)	W	0.6	0.6	0.6	0.6	0.6	0.4	
Direct mounting without contactor	With coil:	ac 24 to 250 V	–	LC1D40 to D150				–	
		ac 100 to 250 V	–					LC1D40 to D115	
		ac 380 to 415 V	LC1D40 to D150					–	
Mounting with cabling adaptor LAD-4BB	With coil:	ac 24 to 250 V	–	LC1D09 to D38, DT20 to DT60				LC1D09 to D38, DT20 to DT60	
		ac 380 to 415 V	LC1D09 to D38, DT20 to DT40					–	
Total operating time at Uc (of the contactor)	Operating times depend on the type of contactor electromagnet and its control mode. The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.								
				LC1D09 to D38, DT20 to DT60		LC1D40 to D65		LC1D80 and D95	
	With LA4DF, DL	N.O.	ms	20 to 30		28 to 34		28 to 43	
		N.C.	ms	16 to 24		20 to 24		18 to 32	
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end		mm ²	Min.: 1 x 1 (#12 AWG)					
			mm ²	Min.: 2 x 2.5 (#12 AWG)					

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Dimensions: pages 122, 123

Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Characteristics of Auxiliary Contacts, Timers, and Accessories

Electronic Serial Timer Modules for Contactors

Environment

Module type			LA4DT (On-delay)
Conforming to standards	CE	Meets the essential requirements of the LV & EMC directives	IEC 60255-5
Product certifications			UL, CSA
Protective treatment	Conforming to IEC 60068		"TH"
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Ambient air temperature around the device	Storage	°C	- 40 to + 80 (- 104 to + 176 °F)
	Operation	°C	- 25 to + 55 (- 77 to + 131 °F)
	For operation at U _c	°C	- 25 to + 70 (- 77 to + 158 °F)
Rated insulation voltage (U _i)	Conforming to IEC 60947-1	V	250
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	mm ²	Min.: 1 x 1 Max.: 2 x 2.5

Control Circuit Characteristics

Built-in protection	On input		By varistor
	Suppression of contactor		By varistor
Rated control circuit voltage (U _c)		V	ac or dc 24 to 250
Permissible variation			0.8 to 1.1 U _c
Type of control			By mechanical contact only

Time Delay Characteristics

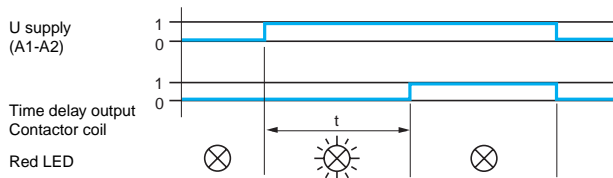
Timing ranges		s	0.1 to 2; 1.5 to 30; 25 to 500
Repeat accuracy	0 to 40 °C (104 °F)		± 3% (10 ms minimum)
Reset time	During the time delay period	ms	150
	After the time delay period	ms	50
Immunity to micro-breaks	During the time delay period	ms	10
	After the time delay period	ms	2
Indication of time delay	By LED		Illuminates during time delay period

Switching Characteristics (solid state type)

Maximum power dissipated		W	2
Leakage current		mA	< 5
Residual voltage		V	3.3
Overvoltage protection			3 kV; 0.5 N.m
Electrical durability	In millions of operating cycles		30

Operating Diagrams

LA4DT "On-delay" electronic timers



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Dimensions: pages 122, 123

Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Characteristics of Auxiliary Contacts, Timers, and Accessories

Control Modules, Coil Suppressor Modules and Mechanical Latch Blocks for Contactors

Environment

Conforming to standards			IEC 60947-5-1
Product certifications			UL, CSA
Protective treatment	Conforming to IEC 60068		"TH"
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Ambient air temperature around the device	Storage	°C	- 40 to + 80 (- 104 to + 176 °F)
	Operation	°C	- 25 to + 55 (- 77 to + 131 °F)
	Permissible for operation at U _c	°C	- 25 to + 70 (- 77 to + 158 °F)

"Auto - Man - Stop" Control Modules

Recommendation	The Auto - Man selector switch must only be operated with the Start - Stop ("O" "I") switch in position "O"		
Rated insulation voltage	Conforming to IEC 60947-5-1	V	250
Rated operational voltage	Conforming to IEC 60947-5-1	V	250
Protection	Against electric shocks	kV	2
Built-in protection	Contact coil suppression		By varistor
Indication	By integral LED		Illuminates when the contactor coil is energized
Electrical durability	In operating cycles		20,000

Coil Suppressor Modules

Module type			LA4DA LAD4RC	LA4DB LAD4T	LA4DC	LA4DE LAD4V
Type of protection			RC circuit	Bidirectional peak limiting diode	Diode	Varistor
Rated control circuit voltage (U _c)		V	ac 24 to 415	ac or dc 24 to 72	dc 12 to 250	ac or dc 24 to 250
Maximum peak voltage			3 U _c	2 U _c	U _c	2 U _c
Natural RC frequency	24/48 V	Hz	400	–	–	–
	50/127 V	Hz	200			
	110/240 V	Hz	100	–	–	–
	380/415 V	Hz	150	–	–	–

Mechanical Latch Blocks

Mechanical latch block type			LA6DK10	LAD6K10	LA6DK20
For mounting on contactor			LC1D40 to D65, LP1D65	LC1D09 to D38, DT20 to DT60	LC1D80 to D150 LP1D80 and LC1D115
Certification			UL, CSA		UL, CSA
Rated insulation voltage	Conforming to IEC 60947-5-1	V	690		690
Rated control circuit voltage	ac 50/60 Hz and dc	V	24 to 415		24 to 415
Power required	For unlatching	ac	VA	25	
		dc	W	30	
Maximum operating rate	In operating cycles/hour		1200		1200
On-load factor			10%		10%
Mechanical durability at U _c	In millions of operating cycles		0.5		0.5

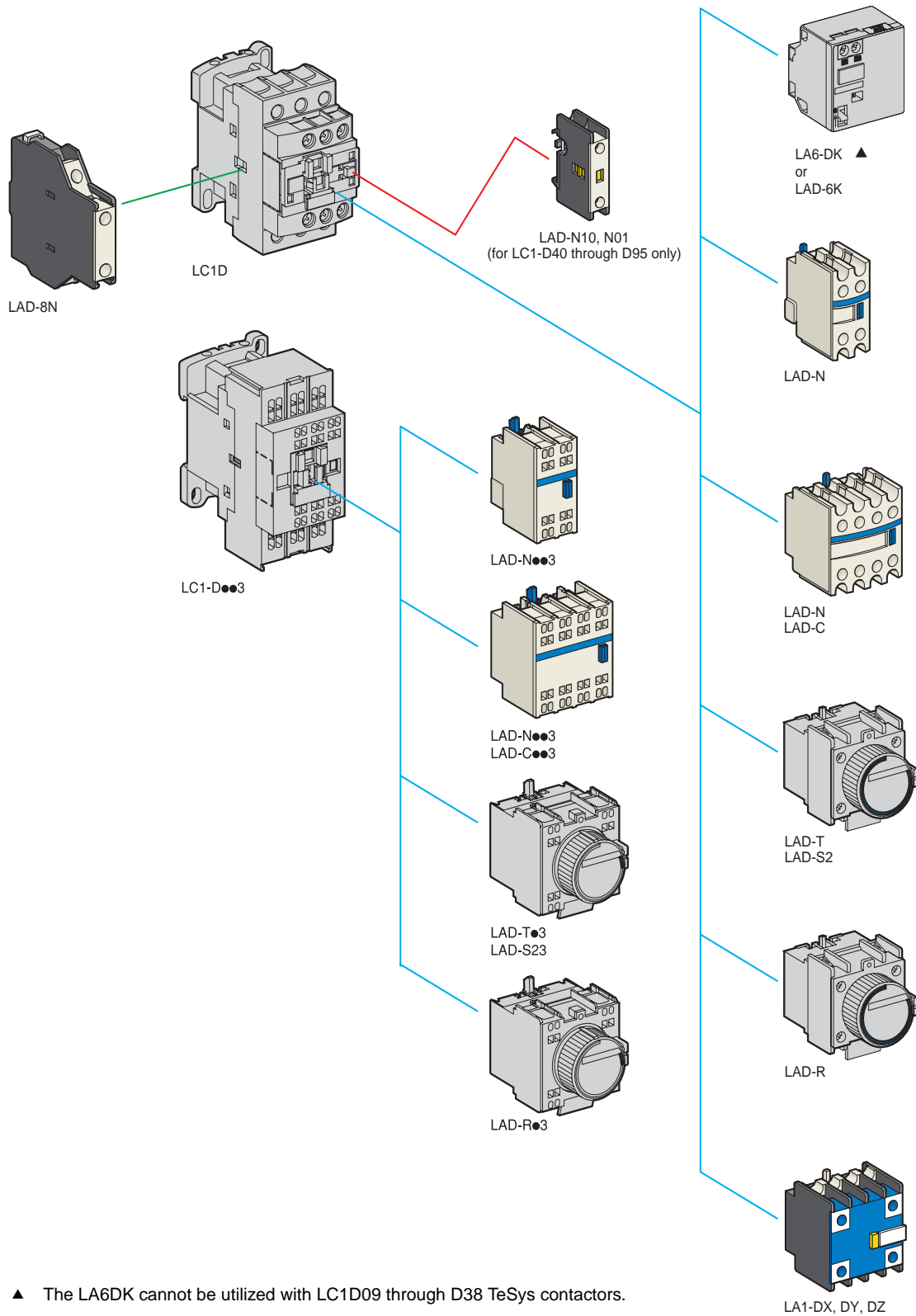
Catalog Number: pages 108, 110 - 112

Dimensions: pages 122, 123

Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Selection of Auxiliary Contact Blocks








TeSys™ D-Line Contactors and Starters

Selection of Auxiliary Contact Blocks

Instantaneous Auxiliary Contact Blocks for Connection by Screw Clamp Terminals

For use in normal operating environments

Clip-on mounting	Number of contacts per block (see table below for maximum number of contacts)	Composition					Catalog Number	Weight lb (kg)
								
Front	1	-	-	-	1	-	LADN10 ♦	0.04 (0.020)
		-	-	-	-	1	LADN01 ♦	0.04 (0.020)
	2	-	-	-	1	1	LADN11	0.07 (0.030)
		-	-	-	2	-	LADN20	0.07 (0.030)
		-	-	-	-	2	LADN02	0.07 (0.030)
		-	-	-	2	2	LADN22	0.11 (0.050)
	4	-	-	-	1	3	LADN13	0.11 (0.050)
		-	-	-	4	-	LADN40	0.11 (0.050)
		-	-	-	-	4	LADN04	0.11 (0.050)
		-	-	-	3	1	LADN31	0.11 (0.050)
4 includes one N.O. and one N.C. make before break		-	-	-	2	2	LADC22	0.11 (0.050)
Side	2	-	-	-	1	1	LAD8N11 ●	0.07 (0.030)
		-	-	-	2	-	LAD8N20 ●	0.07 (0.030)
		-	-	-	-	2	LAD8N02 ●	0.07 (0.030)

For terminal referencing conforming to standard EN 50012 ◊

Front, on 3P contactors & 4P contactors 20 to 60A	2	-	-	-	1	1	LADN11G	0.07 (0.030)
	4	-	-	-	2	2	LADN22G	0.11 (0.050)
Front, on 4P contactors 80 to 200A	2	-	-	-	1	1	LADN11P	0.07 (0.030)
	4	-	-	-	2	2	LADN22P	0.11 (0.050)

With dust and damp protected terminals, for use in particularly harsh industrial environments

Front	2	-	2	-	-	-	LA1DX20	0.09 (0.040)
		2	-	-	-	-	LA1DX02	0.09 (0.040)
	4	-	2	2	-	-	LA1DY20 ▲	0.09 (0.040)
		-	2	-	2	-	LA1DZ40	0.11 (0.050)
		-	2	-	1	1	LA1DZ31	0.13 (0.060)

- ♦ For LC1D40 through LC1D95 only.
- ▲ Device with 4 shield bonding terminals.
- Mount on left side only of LC●D09 through D38 with AC coils. Not allowed on LC●D09 through D38 with DC coils.
- ◊ See page 126 for actual markings.

Instantaneous auxiliary contact blocks for connection by ring-tongue connectors

This type of connection is not possible for blocks with dust and damp protected contacts. For all other instantaneous auxiliary contact blocks, add the digit 6 to the end of the references selected above. Example: LADN10 becomes LADN106.

Instantaneous auxiliary contact blocks for connection by spring terminals

This type of connection is not possible for LAD8, LADN with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the digit 3 to the end of the references selected above. Example: LADN11 becomes LADN113.

Instantaneous auxiliary contact blocks for connection by Faston connectors

This type of connection is not possible for LAD8, LADN with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the digit 9 to the end of the references selected above. Example: LADN11 becomes LADN119.

Maximum Number of Auxiliary Contacts

Contactors		Instantaneous auxiliary contact blocks					Time delay Front mounted	
Type	Number of poles and size	Side mounted		Front mounted				
				1 contact	2 contacts	4 contacts		
ac	3P	LC1D09 to D38	1 on left-hand side	and	-	1	or 1	or 1
		LC1D40 to D95 (50/60 Hz)	1 on each side	or	2	and 1	or 1	or 1
		LC1D40 to D95 (50 or 60 Hz)	1 on each side	and	2	and 1	or 1	or 1
	4P	LC1D115 and D150	1 on left-hand side	and	-	1	or 1	or 1
		LC1DT20 to DT40	1 on left-hand side	and	-	1	or 1	or 1
		LC1D65 and D80	1 on each side	or	1	or 1	or 1	or 1
dc	3P	LC1D09 to D38	-		-	1	or 1	or 1
		LC1D40 to D95	-		1	or 1	or 1	or 1
		LC1D115 and D150	1 on left-hand side	and	-	1	or 1	or 1
	4P	LC1DT20 to DT40	1 on left-hand side	or	-	1	or 1	or 1
		LP1D65 and D80	-		2	and 1	or 1	or 1
		LC1D115	1 on each side		-	and 1	or 1	or 1
LC (1)	3P	LC1D09 to D38	-		-	1 (2)	-	-
	4P	LC1DT20 to DT40	1 on left-hand side	and	-	1	or 1	or 1

(1) LC: low consumption.

(2) Except LADN02.

In order to mount on an LAD8N on an LC1D40 to D95, a set of shims must be ordered separately, see page 114.

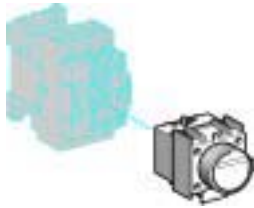
Characteristics: page 100-102

Dimensions: pages 122, 123

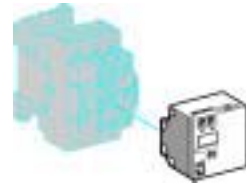
Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Selection of Time-Delay Blocks, and Mechanical-Latch Blocks



LADT●



LA6DK●●



LADT●3



LA6DK●●



LA4SPX ▲

Time Delay Auxiliary Contact Blocks for Connection by Screw Clamp Terminals

Maximum number of auxiliary contact blocks that can be attached per contactor, see page 107.
 Sealing cover to be ordered separately, see page 114.
 LADT0 and LADR0: with extended scale from 0.1 to 0.6 s.
 LADS2: with switching time of 40 ms ± 15 ms between opening of the N.C. contact and closing of the N.O. contact.

Clip-on Mounting	Number of Contacts	Time Delay		Catalog Number	Weight lb (kg)
		Type	Setting Range		
Front	1 N.O. + 1 N.C.	On-delay ◆	0.1 to 3 s	LADT0	(0.13) 0.060
			0.1 to 30 s	LADT2	(0.13) 0.060
			10 to 180 s	LADT4	(0.13) 0.060
			1 to 30 s	LADS2	(0.13) 0.060
		Off-delay ◆	0.1 to 3 s	LADR0	(0.13) 0.060
			0.1 to 30 s	LADR2	(0.13) 0.060
		10 to 180 s	LADR4	(0.13) 0.060	

◆ Also fit pre-TeSys Contactors.

Time delay auxiliary contact blocks for connection by ring-tongue connectors

Add the digit 6 to the end of the references selected above. Example: LADT0 becomes LADT06.

Time delay auxiliary contact blocks for connection by spring terminals

Add the digit 3 to the end of the references selected above. Example: LADT0 becomes LADT03.

Time delay auxiliary contact blocks for connection by Faston connectors

Add the digit 9 to the end of the references selected above. Example: LADT0 becomes LADT09.

Mechanical latch blocks (2)

Clip-on Mounting	Unlatching Control	For use on Contactor	Basic Reference. Complete with Code Indicating Control Voltage	Standard Voltages (1)	Weight lb (kg)
Front	Manual or electric	LC1D40 to D65 3P ac or dc LC1D65 4P ac LP1D65 4P dc	LA6DK10●	B E F M Q	(0.15) 0.070
		LC1D80 to D150 3P ac LC1D80 and D115 3P dc LP1D80 and LC1D115 4P dc	LA6DK20●	B E F M Q	(0.20) 0.090
		LC1D09 to D38 ac or dc LC1DT20 to DT60 ac or dc	LAD6K10●	B E F M Q	(0.15) 0.070

(1) Standard control circuit voltages (for other voltages please consult your Regional Sales Office).

Vdc 50/60 Hz,	24	32/36	42/48	60/72	100	110/127	220/240	256/277	380/415
Code	B	C	E	EN	K	F	M	U	Q

(2) The mechanical latching block must not be powered up at the same time as the contactor. The duration of the control signal for the mechanical latching block and the contactor should be ≥ 100 ms.

Characteristics: pages 100 - 102

Dimensions: pages 122, 123

Schematics: pages 126, 127

SERIPLEX® Module

Approvals	File E114926 CCN NRAQ	LR53531 Class 2252 01		
SERIPLEX	1 block per contactor Clip-on front mounting	Operates coils up to	Catalog Number	Weight – lb (kg.)
Contactor adaptor module ◆	LC1D09 to LC1D80	277 Vac	LA4SPX	0.160 (0.072)
	LP1D09 to LP1D80	24 Vdc		

◆ For more information, refer to SERIPLEX catalog 8330CT9601.

▲ Attaches similarly to all other accessories.

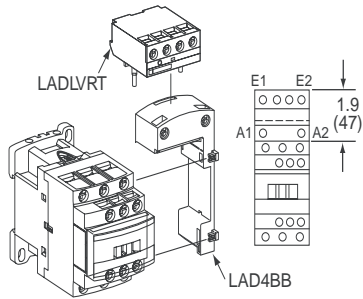
TeSys™ D-Line Contactors and Starters Selection of Low Voltage Ride Through Module

SEMI F47 Low Voltage Ride Through Module

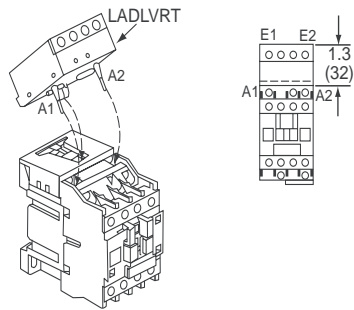
By ensuring SEMI F47 compliance of AC powered IEC contactors and relays, the Low Voltage Ride Through Modules can be used to increase the voltage sag immunity of semiconductor processing equipment. These modules make it possible for AC powered TELEMECANIQUE contactors and relays to exceed the requirements of SEMI F47, both in the magnitude and duration of a voltage sag event – even with accessories such as auxiliary contact blocks and pneumatic timers.

More and more wafer fabs are insisting that front-end wafer processing equipment comply with SEMI F47. Many of the contactors and pilot relays used on equipment, particularly in the EMO circuit, are not able to meet the standard. As a result, equipment can drop out during a voltage sag of 50% in magnitude and 200ms in duration, causing equipment shutdown.

The Low Voltage Ride Through Modules can be used with TELEMECANIQUE contactors from 9A through 80A, as well as the CAD series of control relays.

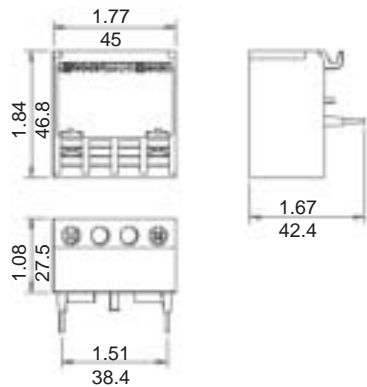


Contactors 32 A and less

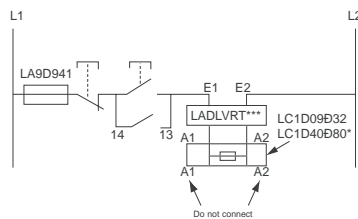


Contactors 40 A - 80 A

Dimensions



Typical Wiring Scheme for 3-Wire Control



Selection

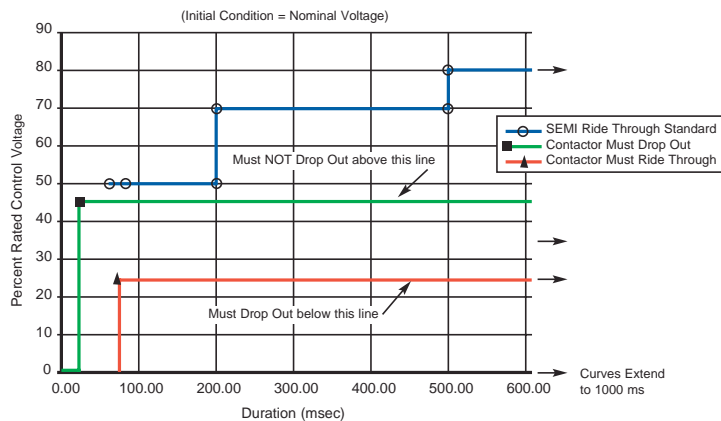
LADLVRT24V	LADLVRT120V	LADLVRT208V	Bracket	Fuse
For use on LC1: D09B7, D12B7, D18B7, D25B7	For use on LC1: D09G7, D12G7, D18G7, D25G7	For use on LC1: D09LE7, D12LE7, D18LE7, D25LE7	LAD4BB*	LA9D941
D32B7, D40B7, D50B7, D65B7, D80B7	D32G7, D40G7, D50G7, D65G7, D80B7	D32LE7, D40L7, D50L7, D65L7, D80B7	-	
CADxxxB7	CADxxxG7	CADxxxLE7	-	

* The Low Voltage Ride Through Module can be used with all TeSys control relays with 24 VAC, 120 VAC or 208 VAC dual frequency coils.

** LAD4BB must be used when the Low Voltage Ride Through Module is being used with contactors 32 A and less, and TeSys CAD Series of Control Relays.

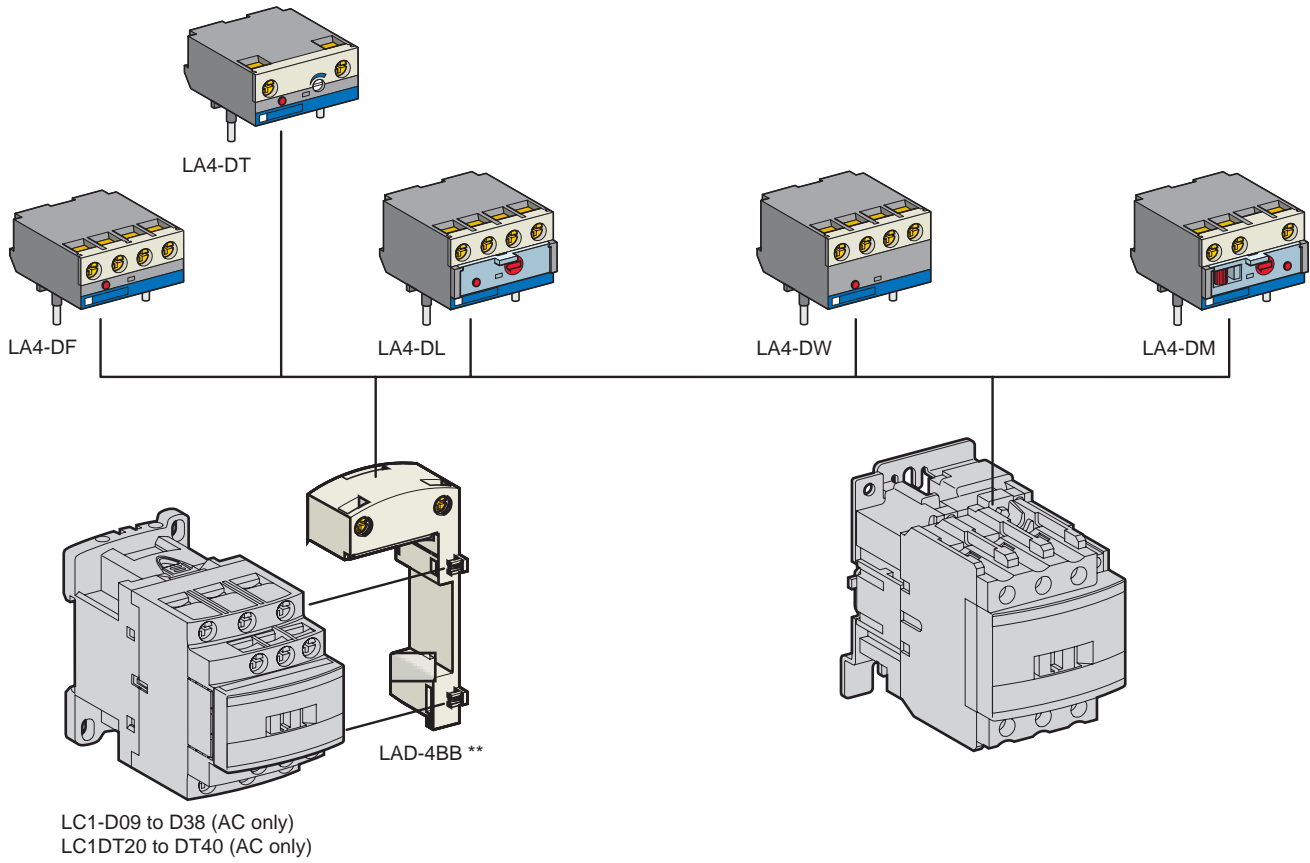
Specifications

Continuous operating voltage range and line frequency	85–110% of the rated voltage at 47–63 Hz
Max. installed accessories	1 front mount and 1 side mount auxiliary device for contactors 1 auxiliary device for TeSys Control Relays
Dropout time	150 ms
Max. operation rate	20 operations/min. for LC1D09–LC1D32 30 operations/min. for LC1D40–LC1D80
Max. mechanical and electrical durability	250 000 operations
Leakage current capability	6 ma maximum as per IEC 61131
MTBF	100,000 hours
Standards	SEMI F47-0999, cULus, CE, UL 508 IEC 60947-5-1 (Control Circuit Devices and Switching Elements) IEC 60068 (Mechanical Environmental Testing) NSTA (Shipping and Handling) IEC 61000-4-2 Electrostatic Discharge IEC 61000-4-3 Electromagnetic Field IEC 61000-4-4 Fast Transient and Burst IEC 61000-4-5 Surge Immunity IEC 61000-4-6 Conducted RFI IEC 60068-2-6 Operational Vibration IEC 60068-2-27 Operational Shock
Pickup performance	per UL508 and IEC 60947
Storage temperature	-40 to +80 °C (- 104 to + 176 °F)
Operating temperature	0 to 40°C (32 to 104 °F) ambient surrounding ride through module
Relative humidity	5 to 95%, at 40°C (104 °F) non-condensing
Maximum operating altitude	3000 meters (9842.4 ft)



TeSys™ D-Line Contactors and Starters

Selection of Electronic Timers and Interface Modules



**See Cabling Accessories page 114.

TeSys™ D-Line Contactors and Starters

Selection of Electronic Timers and Interface Modules

Electronic Serial Timer Modules (1)

- 3-pole contactors LC1D40 to D150 and 4-pole contactors LC1D65 to D115: mounted directly across terminals A1 and A2 of contactor (screw mounting).

On-delay Type

Operational Voltage		Time	Catalog Number	Weight lb (kg)
AC 24 to 250 V	100 to 250 V			
LC1 D09 to D38 (3P) and DT20 to DT60 (4P)	LC1 D40 to D150 (3P)	0.1 to 2 s	LA4DT0U (2)	0.09 (0.040)
		1.5 to 30 s	LA4DT2U (2)	0.09 (0.040)
		25 to 500 s	LA4DT4U (2)	0.09 (0.040)

Interface Modules

- 3-pole contactors LC1D40 to D150 and 4-pole contactors LC1D65 to D115: mounted directly across terminals A1 and A2 of contactor (screw mounting).

Relay Interface

Operational Voltage		Supply voltage E1-E2 (dc)	Catalog Number	Weight lb (kg)
AC 24 to 250 V	AC 380 to 415 V			
–	LC1D09 to D150 (3P) and DT20 to DT60 (4P)	24 V	LA4DFBQ (2)	0.12 (0.055)
LC1D09 to D150 (3P) and DT20 to DT60 (4P)	–	24 V	LA4DFB (2)	0.11 (0.050)
		48 V	LA4DFE (2)	0.11 (0.050)

Relay Interface with Manual Override Switch (output forced “ON”)

Operational Voltage		Supply Voltage E1-E2 (dc)	Catalog Number	Weight lb (kg)
AC 24 to 250 V	AC 100 to 250 V			
LC1D09 to D150 (3P) and DT20 to DT60 (4P)	–	24 V	LA4DLB (2)	0.10 (0.045)
		48 V	LA4DLE (2)	0.10 (0.045)

Solid State Interface

LC1D09 to D38 (3P) and DT20 to DT60 (4P)	LC1D40 to D115 (3P)	24 V	LA4DWB (2)	0.10 (0.045)
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Auto-Man-Stop Control Modules

For local override operation tests with two-position “Auto-Man” switch and “O-I” switch

- 3-pole contactors LC1D40 to D150 and 4-pole contactors LC1D65 to D115: mounted directly across terminals A1 and A2 of contactor (screw mounting).

Operational voltage		Catalog Number	Weight lb (kg)
AC 24 to 100 V	AC 100 to 250 V		
LC1D09 to D150 (3P) and DT20 to DT60 (4P)	–	LA4DMK (2)	0.09 (0.040)
–	LC1D40 to D150 (3P)	LA4DMU	0.09 (0.040)

(1) For 24 V operation, the contactor must be fitted with a 21 V coil (code Z7). See pages 117.

(2) Mounting these accessories to TeSys LC1D09 through D38 AC controlled and LC1DT20 through DT40 AC controlled contactors requires the use of the LAD4BB adaptor. This adaptor can not be used on TeSys contactors with DC coils.

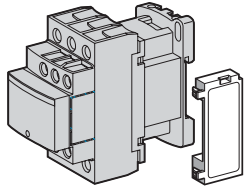
Characteristics: pages 103 - 105

Dimensions: pages 122, 123

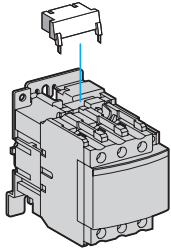
Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Selection of Coil Suppressor Modules



LAD4



LA4D

RC Circuits (resistor-capacitor)

- Effective protection for circuits highly sensitive to "high frequency" interference. For use only in cases where the voltage is virtually sinusoidal, i.e. less than 5% total harmonic distortion.
- Voltage limited to 3 Uc maximum and oscillating frequency limited to 400 Hz maximum.
- Slight increase in drop-out time (1.2 to 2 times the normal time).

Mounting	For use with Contactor (1) Rating	Type		Catalog Number	Weight lb (kg)
		Vac	Vdc		
Clip-on (3)	D09 to D38 (3P) and DT20 to DT40	24 to 48	–	LAD4RCE	0.03 (0.012)
		110 to 250	–	LAD4RCU	0.03 (0.012)
Screw mounting(4)	D40 to D150 (3P) and D40 to D115 (4P)	24 to 48	–	LA4DA2E	0.04 (0.018)
		50 to 127	–	LA4DA2G	0.04 (0.018)
		110 to 250	–	LA4DA2U	0.04 (0.018)
		380 to 415	–	LA4DA2N	0.04 (0.018)

Varistors (peak limiting)

- Protection provided by limiting the transient voltage to 2 Uc max.
- Maximum reduction of transient voltage peaks.
- Slight increase in drop-out time (1.1 to 1.5 times the normal time).

Clip-on (3)	D09 to D38 (3P) (2) DT20 to DT40	24 to 48	–	LAD4VE	0.03 (0.012)
		50 to 127	–	LAD4VG	0.03 (0.012)
		110 to 250	–	LAD4VU	0.03 (0.012)
Screw connection to the contactor coil terminals	D40 to D115 (3P) and D40 to D115 (4P)	24 to 48	–	LA4DE2E	0.04 (0.018)
		50 to 127	–	LA4DE2G	0.04 (0.018)
		110 to 250	–	LA4DE2U	0.04 (0.018)
Screw connection of wire to the contactor coil terminals	D40 to D115 (3P) and D40 to D115 (4P)	–	24 to 48	LA4DE3E	0.04 (0.018)
		–	50 to 127	LA4DE3G	0.04 (0.018)
		–	110 to 250	LA4DE3U	0.04 (0.018)

Diodes

- No over voltage or oscillating frequency.
- Increase in drop-out time (6 to 10 times the normal time).
- Polarized component.

Screw mounting (4)	D40 to D95 (3P) D40 and D80 (4P)	–	24 to 250	LA4DC3U	0.04 (0.018)
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Bidirectional peak limiting diode

- Protection provided by limiting the transient voltage to 2 Uc max.
- Maximum reduction of transient voltage peaks.

Clip-on (3)	D09 to D38 (3P) (2)	24	–	LAD4TB	0.03 (0.012)
	DT20 to DT40	72	–	LAD4TS	0.03 (0.012)
Screw mounting (4)	D40 to D95 (3P)	24	–	LA4DB2B	0.04 (0.018)
	D40 and D80 (4P)	72	–	LA4DB2S	0.04 (0.018)
	D40 to D95 (3P)	–	24	LA4DB3B	0.04 (0.018)
	D40 and D80 (4P)	–	72	LA4DB3S	0.04 (0.018)

(1) For satisfactory protection, a suppressor module must be installed across the coil of each contactor.

(2) From LC1D09 to D38 and LC1DT20 to DT40, dc and low consumption 3-pole contactors are fitted with built-in suppression as standard.

(3) Clipping-on makes the electrical connection. The overall size of the contactor remains unchanged.

(4) Mounting at the top of the contactor on coil terminals A1 and A2.

Characteristics: pages 100 - 102

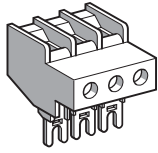
Dimensions: pages 122, 123

Schematics: pages 126, 127

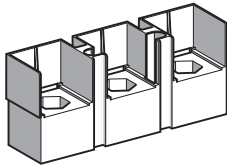
TeSys™ D-Line Contactors and Starters

Selection of Accessories for Contactors and Reversing Contactors

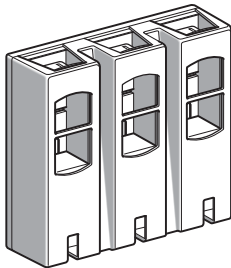
Accessories for Main Pole and Control Connections



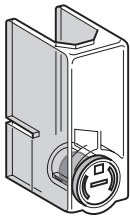
LA9D3260



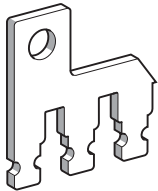
LA9D11550-



LA9D11560-



LA9D11570-



LA9D80962

Description	For Use on Contactors		Sold In Lots Of	Catalog Number	Weight lb (kg)	
	AC	DC				
Connectors for cable, sizes (1 connector)	4-pole 10 mm ² (8 AWG)	D09, D12, DT20, DT25	D09, D12, DT20, DT25	1	LAD92560	0.67 (0.030)
	3-pole 25 mm ² (4 AWG)	D09 to D38	D09 to D38	1	LA9D3260	0.09 (0.040)
	4-pole 25 mm ² (4 AWG)	DT32 to DT40	DT32 to DT40	1	LAD96060	0.13 (0.060)
Connectors for cable, sizes (2 connectors)	3-pole 120 mm ² (250 MCM)	D115, D150	D115, D150	1	LA9D115603B	1.2 (0.560)
	4-pole 120 mm ² (250 MCM)	D115	D115	1	LA9D115604	1.6 (0.740)
Connector for lug type terminals (2 connectors)	3-pole	D115, D150	D115, D150	1	LA9D115503B	0.66 (0.300)
	4-pole	D115	D115	1	LA9D115504	0.80 (0.360)
Protective covers for lug type terminals	3-pole (1)	D115, D150	D115, D150	1	LA9D115703	0.55 (0.250)
	4-pole (1)	D115, D150	D115, D150	1	LA9D115704	0.66 (0.300)
Links for parallel connection of	2 poles	D09 to D38	D09 to D38	10	LA9D2561	0.13 (0.060)
		DT20 & DT25 (4P)	DT20 & DT25 (4P)	10	LA9D1261	0.03 (0.012)
		DT32 to DT40 (4P)	DT32 to DT40 (4P)	10	LAD96061	0.13 (0.060)
		D40 to D65	D40 to D65	2	LA9D40961	0.05 (0.021)
		D80, D95	D80	2	LA9D80961	0.13 (0.060)
	3 poles (star connection)	D09 to D38	D09 to D38	10	LAD9P3 (2)	0.01 (0.005)
		D80, D95	D80	1	LA9D80962	0.18 (0.080)
		DT20 to DT40	DT20 to DT40	2	LA9D1263	0.05 (0.024)
	4 poles	D40 to D65	D40 to D65	2	LA9D40963	0.15 (0.070)
		D80, D95	D80	2	LA9D80963	0.22 (0.100)
		Staggered coil connection		D40 to D80	10	LA9D09966
	Control circuit take-off from main pole			D40 to D65	10	LA9D6567
		D80, D95	10	LA9D8067	0.02 (0.010)	
Spreaders for increasing the pole pitch to 45 mm			D115, D150	3	GV7AC03	0.4 (0.180)

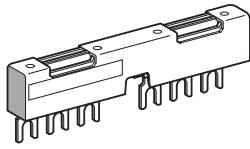
- (1) For 3-pole contactors: 1 set of 6 covers, for 4-pole contactors: 1 set of 8 covers.
 (2) Separate connecting bar for connecting 2 poles in parallel.

Dimensions: pages 122, 123

Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

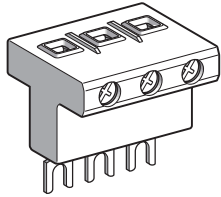
Selection of Accessories for Contactors and Reversing Contactors



GV2G245

Sets of Contacts and Arc Chambers

Description	For Use on Contactors		Catalog Number	Weight lb (kg)
Set of contacts	3-pole	LC1D115	LA5D1158031	0.60 (0.260)
		LC1D150	LA5D150803	0.60 (0.260)
Arc chambers	3-pole	LC1D115004	LA5D115804	0.72 (0.330)
		LC1D115	LA5D11550	0.87 (0.395)
	4-pole	LC1D150	LA5D15050B	0.87 (0.395)
		LC1D115004	LA5D115450B	1.03 (0.470)

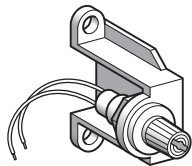


GV1G09

Cabling Accessories

For adapting existing wiring to a new product	LC1D09 to D38 and LC1DT20 to DT60 AC only	Without coil suppression	LAD4BB	0.04 (0.019)	
		With coil suppression	ac 24 to 48 V	LAD4BBVE	0.03 (0.014)
			ac 50 to 127 V	LAD4BBVG	0.03 (0.014)
			ac 110 to 250 V	LAD4BBVU	0.03 (0.014)
Set of 63 A busbars for paralleling of contactors	2 contactors LC1D09 to D18 or D25 to D38	GV2G245	0.08 (0.036)		
	4 contactors LC1D09 to D18 or D25 to D38	GV2G445	0.17 (0.077)		
Terminal block for supply to:	One or more GV2G busbar sets	GV1G09	0.09 (0.040)		

Protection Accessories



LA9D941

Description	Application	Sold in Lots Of	Catalog Number	Weight lb (kg)
Miniature fuse holder	5 x 20 with 4 A-250 V fuse	1	LA9D941	0.05 (0.025)
Sealing cover	For LADT, LADR	1	LA9D901	0.01 (0.005)
Safety cover preventing access to the moving contact carrier	LC1D09 to D38 and DT20 to DT60	1	LAD9ET1	0.06 (0.026)
	LC1D40 to D65	1	LAD9ET2	0.03 (0.012)
	LC1D80 and D95	1	LAD9ET3	0.008 (0.004)
	LC1D115 and D150	1	LAD9ET4	0.008 (0.004)

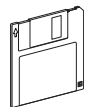
Marking Accessories



LAD9ET.

Description	Application	Sold in Lots Of	Catalog Number	Weight lb (kg)
Sheet of 80 blank labels self-adhesive, 8 x 33 (1)	Contactors (excluding 4-pole LC1-D65 to D115) LADN (4 contacts), LA6DK	10	LAD21	0.04 (0.020)
Sheet of 80 blank labels self-adhesive, 8 x 12 (1)	LADN (2 contacts), LADT, LADR, LRD	10	LAD22	0.04 (0.020)
Sheet of 80 blank labels for marking using plotter or 8 x 33 engraver	Contactors (excluding 4-pole LC1D65 to D115) LAD (4 contacts), LA6DK	10	LAD23	0.11 (0.050)
Sheet of 112 blank labels for marking using plotter or 8 x 12 mm engraver	All products	35	LAD24	0.44 (0.200)
Label holder snap-in, 8 x 22 mm	4-pole contactors LC1D65 and D80, LA6DK	100	LA9D92	0.002 (0.001)
Legend holder snap-in, 8 x 22 mm	LC1D09 to D38 LC1DT20 to D40 LAD●N (4 contacts) LAD●T, LAD●R	100	LAD90	0.002 (0.001)
Bag of 300 blank labels self-adhesive, 7 x 21 mm	On holder LA9D92	1	LA9D93	0.002 (0.001)
"SIS Label" label creation software	Multi-language version (EN, FR, GE) ▲	1	XBYS2U	0.13 (0.060)

▲ System requirement: 486 processor or better; Windows 95, 98 or NT 4.0 or better.



XBYS1U

Mounting Accessories

Mounting plate	For replacement of LC1F115 or F150 by LC1D115 or D150	1	LA9D730	0.80 (0.360)
Set of shims	For fitting side mounting blocks LAD8N on LC1D40 to D95	1	LA9D511	0.04 (0.020)

(1) These legends are for sticking onto the safety cover of the contactors or add-on block, if fitted.

TeSys™ D-Line Contactors and Starters

D-line Voltage Code Table

D-line Voltage Code

Voltage	Frequency	D-line (see notes at end of table)		
		LC1D09 - D38 LC2D09 - D38 Notes D1, D3	LC1D40 - D95 LC2D40 - D95 Note D1	LC1D115 - D150 Note D1, D2, D4
5	Low Consump DC	AL	-	-
12	50/60	J7	-	-
	50	-	J5	-
	DC	JD	JD	-
	Low Consump DC	JL	-	-
	Wide Range DC	-	JW	-
20	50/60	-	Z7	-
	50	-	Z5	-
	60	-	Z6	-
	DC	-	-	-
	Low Consump DC	ZL	-	-
24	50/60	B7	B7	B7
	50	-	B5	B5
	60	-	B6	B6
	40-400	-	-	-
	DC	BD	BD	BD
	Low Consump DC	BL	-	-
	Wide Range DC	-	BW	-
36	50/60	CC7	-	-
	DC	CD	CD	CD
	Wide Range DC	-	CW	-
42	50/60	D7	D7	D7
	50	-	D5	D5
	60	-	-	-
48	50/60	E7	E7	E7
	50	-	E5	E5
	60	-	E6	E6
	40-400	-	-	-
	DC	ED	ED	ED
	Low Consump DC	EL	-	-
	Wide Range DC	-	EW	-
60	50/60	EE7	-	-
	DC	ND	ND	ND
	DC	SD	SD	SD
72	Low Consump DC	SL	-	-
	Wide Range DC	-	SW	-
96	Low Consump DC	DL	-	-
100	50/60	K7	K7	-
	DC	-	-	-

D-line Voltage Code (Continued)

Voltage	Frequency	D-line (see notes at end of table)		
		LC1D09 - D38 LC2D09 - D38 Notes D1, D3	LC1D40 - D95 LC2D40 - D95 Note D1	LC1D115 - D150 Note D1, D2, D4
110	50/60	F7	F7	F7
	50	-	F5	F5
	60	-	F6	F6
	40-400	-	-	-
	DC	FD	FD	FD
	Low Consump DC	FL	-	-
	Wide Range DC	-	FW	-
110/127	40-400	-	-	-
115	50/60	FE7	FE7	FE7
	50	-	FE5	FE5
	40-400	-	-	-
120	50/60	G7	G7	G7
	50	-	-	-
	60	-	G6	G6
	40-400	-	-	-
	DC	-	-	-
125	DC	GD	GD	GD
	50/60	FC7	-	FC7
127	60	-	G5	FC5
	40-400	-	-	-
155	DC	PD	-	-
174	DC	-	-	-
200	50/60	L7	L7	-
	DC	-	-	-
200/208	50/60	-	-	-
	60	-	-	-
	40-400	-	-	-
208	50/60	LE7	LE7	LE7
	60	-	L6	L6
	40-400	-	-	-
220	50/60	M7	M7	M7
	50	-	-	M5
	60	-	M6	M6
	40-400	-	-	-
	DC	MD	MD	MD
	Low Consump DC	ML	-	-
	Wide Range DC	-	MW	-
220/230	50/60	-	-	-
	50	-	M5	-
	60	-	-	-
220/240	40-400	-	-	-
	DC	-	-	-

TeSys™ D-Line Contactors and Starters

D-line Voltage Code Table

D-line Voltage Code (Continued)

Voltage	Frequency	D-line (see notes at end of table)		
		LC1D09 - D38 LC2D09 - D38 Notes D1, D3	LC1D40 - D95 LC2D40 - D95 Note D1	LC1D115 - D150 Note D1, D2, D4
230	50/60	P7	P7	P7
	50	U7	P5	P5
	60	-	-	-
	40-400	-	-	-
	DC	-	-	-
230/240	50/60	-	-	-
240	50/60	U7	U7	U7
	50	-	U5	U5
	60	-	U6	U6
	40-400	-	-	-
	DC	-	-	-
250	DC	UD	UD	UD
	Low Consump DC	UL	-	-
256	50/60	-	-	-
	50	-	W5	-
277	50/60	W7	-	UE7
	50	-	W6	W6
	40-400	-	-	-
380	50/60	Q7	Q7	Q7
	50	-	-	Q5
	60	-	Q6	Q6
	40-400	-	-	-
380/400	50/60	-	-	-
	50	-	Q5	-
	60	-	-	-
	40-400	-	-	-
	DC	-	-	-
380/440	40-400	-	-	-
400	50/60	V7	V7	V7
	50	-	V5	V5
	40-400	-	-	-
400/415	50/60	-	-	-
415	50/60	N7	N7	N7
	50	-	N5	N5
	40-400	-	-	-
415-440	50	-	-	-
	40-400	-	-	-
440	50/60	R7	R7	R7
	50	-	R5	R5
	60	-	R6	R6
	40-400	-	-	-
	DC	RD	RD	RD
440/460	DC	-	-	-
460/480	60	-	-	-
480	50/60	T7	-	T7
	50	-	-	-
	60	-	T6	T6
	40-400	-	-	-
500	50/60	S7	-	S7
	50	-	S5	S5
	40-400	-	-	-
575	50/60	SC7	-	-
	60	-	S6	-

D-line Voltage Code (Continued)

Voltage	Frequency	D-line (see notes at end of table)		
		LC1D09 - D38 LC2D09 - D38 Notes D1, D3	LC1D40 - D95 LC2D40 - D95 Note D1	LC1D115 - D150 Note D1, D2, D4
600	50/60	X7	-	-
	60	X6	X6	-
	40-400	-	-	-
660	50	Y5	Y5	-
	60	-	-	-
660/690	50/60	-	-	-

Notes:

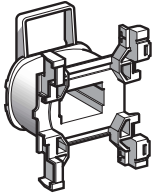
D1 For operating ranges refer to technical data section of the D-line contactors. Ranges vary as a function of the current rating of the contactor and type of supply (AC/DC)

D2 LC1-D150 Contactors utilize dual frequency 50/60 Hz. coils only. Single frequency coils are not available.

D3 LC1D09-LC1D38 contactors with DC coil have integral suppression device (bi-directional diode) as standard.

D4 D115 and D150 coils have integral suppression device fitted as standard.

TeSys™ D-Line Contactors and Starters Selection of AC Coils



LXD1•

AC Coils for Contactors LC1D09 to D38 3-pole and 4-pole LC1DT20 to DT40

Specifications

Control circuit voltage U _c	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number (1)	Weight lb (kg)
V	Ω	H	50/60 Hz	

Average consumption at 20 °C (68 °F):

- inrush (cos φ = 0.75) 70 VA,
- sealed (cos φ = 0.3) 50 Hz: 7 VA, 60 Hz: 7.5 VA.

Operating range (θ ≤ 60 °C / 140 °F): 50 Hz: 0.8 to 1.1 U_c, 60 Hz: 0.85 to 1.1 U_c.

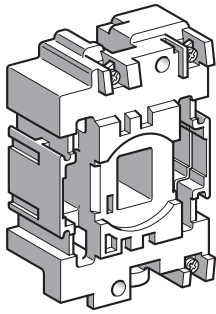
12	6.3	0.26	LXD1J7	0.15 (0.070)
21 (2)	5.6	0.24	LXD1Z7	0.15 (0.070)
24	6.19	0.26	LXD1B7	0.15 (0.070)
32	12.3	0.48	LXD1C7	0.15 (0.070)
36	12.83		LXD1CC7	0.15 (0.070)
42	19.15	0.77	LXD1D7	0.15 (0.070)
48	25	1	LXD1E7	0.15 (0.070)
60	34.6	–	LXD1EE7	0.15 (0.070)
100	100.4	–	LXD1K7	0.15 (0.070)
110	130	5.5	LXD1F7	0.15 (0.070)
115	129.8	–	LXD1FE7	0.15 (0.070)
120	159	6.7	LXD1G7	0.15 (0.070)
127	192.5	7.5	LXD1FC7	0.15 (0.070)
200	410.7	–	LXD1L7	0.15 (0.070)
208	417	16	LXD1LE7	0.15 (0.070)
220	539	22	LXD1M7	0.15 (0.070)
230	595	21	LXD1P7	0.15 (0.070)
240	645	25	LXD1U7	0.15 (0.070)
277	781	30	LXD1W7	0.15 (0.070)
380	1580	60	LXD1Q7	0.15 (0.070)
400	1810	64	LXD1V7	0.15 (0.070)
415	1938	74	LXD1N7	0.15 (0.070)
440	2242	79	LXD1R7	0.15 (0.070)
480	2300	85	LXD1T7	0.15 (0.070)
575	3432	119	LXD1SC7	0.15 (0.070)
600	3600	135	LXD1X7	0.15 (0.070)
690	5600	190	LXD1Y7	0.15 (0.070)

(1) The last two digits of the reference represent the voltage code.

(2) Voltage for special coils installed in contactors with serial timer modules, with 24 V supply.

TeSys™ D-Line Contactors and Starters

Selection of AC Coils



LX1D6•

AC Coils for 3 or 4-pole Contactors LC1D40, D50, D65, D80, D95

Specifications

Control circuit voltage U _c	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number (1)	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number (1)	Weight lb (kg)
V	Ω	H	50 Hz	W	H	60 Hz	

Average consumption at 20 °C (68 °F):
 - inrush (cos φ = 0.75) 50 Hz: 200 VA, 60 Hz: 220 VA,
 - sealed (cos φ = 0.3) 50 Hz: 20 VA, 60 Hz: 22 VA.
 Operating range (θ ≤ 55 °C / 131 °F): 0.85 to 1.1 U_c.

24	1.4	0.09	LX1D6B5	1.05	0.06	LX1D6B6	0.61 (0.280)
32	2.6	0.16	LX1D6C5	–	–	–	0.61 (0.280)
42	4.4	0.27	LX1D6D5	–	–	–	0.61 (0.280)
48	5.5	0.35	LX1D6E5	4.2	0.23	LX1D6E6	0.61 (0.280)
110	31	1.9	LX1D6F5	22	1.2	LX1D6F6	0.61 (0.280)
115	31	1.9	LX1D6FE5	–	–	–	0.61 (0.280)
120	–	–	–	28	1.5	LX1D6G6	0.61 (0.280)
127	41	2.4	LX1D6G5	–	–	–	0.61 (0.280)
208	–	–	–	86	4.3	LX1D6L6	0.61 (0.280)
220	–	–	–	98	4.8	LX1D6M6	0.61 (0.280)
220/230	127	7.5	LX1D6M5	–	–	–	0.61 (0.280)
230	133	8.1	LX1D6P5	–	–	–	0.61 (0.280)
240	152	8.7	LX1D6U5	120	5.7	LX1D6U6	0.61 (0.280)
256	166	10	LX1D6W5	–	–	–	0.61 (0.280)
277	–	–	–	157	8	LX1D6W6	0.61 (0.280)
380	–	–	–	300	14	LX1D6Q6	0.61 (0.280)
380/400	381	22	LX1D6Q5	–	–	–	0.61 (0.280)
400	411	25	LX1D6V5	–	–	–	0.61 (0.280)
415	463	26	LX1D6N5	–	–	–	0.61 (0.280)
440	513	30	LX1D6R5	392	19	LX1D6R6	0.61 (0.280)
480	–	–	–	480	23	LX1D6T6	0.61 (0.280)
500	668	38	LX1D6S5	–	–	–	0.61 (0.280)
575	–	–	–	675	33	LX1D6S6	0.61 (0.280)
600	–	–	–	775	36	LX1D6X6	0.61 (0.280)
660	1220	67	LX1D6Y5	–	–	–	0.61 (0.280)

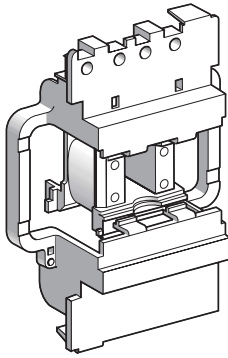
Specifications

Average consumption at 20 °C (68 °F):
 - inrush (cos φ = 0.75) 50/60 Hz: 245 VA at 50 Hz,
 - sealed (cos φ = 0.3) 50/60 Hz: 26 VA at 50 Hz.
 Operating range (θ ≤ 55 °C / 131 °F): 0.85 to 1.1 U_c.

						50/60 Hz	
24	–	–	–	1.22	0.08	LX1D6B7	0.61 (0.280)
42	–	–	–	3.5	0.25	LX1D6D7	0.61 (0.280)
48	–	–	–	5	0.32	LX1D6E7	0.61 (0.280)
110	–	–	–	26	1.7	LX1D6F7	0.61 (0.280)
115	–	–	–	–	–	LX1D6FE7	0.61 (0.280)
120	–	–	–	32	2	LX1D6G7	0.61 (0.280)
208	–	–	–	88.7	4.42	LC1D6LE7	0.61 (0.280)
220/230 (2)	–	–	–	102	6.7	LX1D6M7	0.61 (0.280)
230	–	–	–	115	7.7	LX1D6P7	0.61 (0.280)
230/240 (3)	–	–	–	131	8.3	LX1D6U7	0.61 (0.280)
380/400 (4)	–	–	–	310	20	LX1D6Q7	0.61 (0.280)
400	–	–	–	349	23	LX1D6V7	0.61 (0.280)
415	–	–	–	390	24	LX1D6N7	0.61 (0.280)
440	–	–	–	410	27	LX1D6R7	0.61 (0.280)

- (1) The last two digits of the reference represent the voltage code.
- (2) For use on 230 V 50 Hz, apply a coefficient of 0.6 to the mechanical durability of the contactor (see page 82). This coil can be used on 240 V at 60 Hz.
- (3) This coil can be used on 220/240 V at 50 Hz and on 240 V only at 60 Hz.
- (4) For use on 400 V 50 Hz, apply a coefficient of 0.6 to the mechanical durability of the contactor.

TeSys™ D-Line Contactors and Starters Selection of AC Coils



LX1D8**

AC Coils for 3 or 4-pole Contactors LC1D115

Control circuit voltage U _c	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number(1)	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number (1)	Weight lb (kg)
V	Ω	H	50 Hz	Ω	H	60 Hz	kg

Specifications

Average consumption at 20 °C (68 °F):
 - inrush (cos φ = 0.8) - 50 or 60 Hz: 300 VA,
 - sealed (cos φ = 0.3) - 50 or 60 Hz: 22 VA.
 Operating range (θ ≤ 55 °C / 131 °F): 0.85 to 1.1 U_c.

24	1.24	0.09	LX1D8B5	0.87	0.07	LX1D8B6	0.57 (0.260)
32	2.14	0.17	LX1D8C5	–	–	–	0.57 (0.260)
42	3.91	0.28	LX1D8D5	–	–	–	0.57 (0.260)
48	4.51	0.36	LX1D8E5	3.91	0.28	LX1D8E6	0.57 (0.260)
110	26.53	2.00	LX1D8F5	19.97	1.45	LX1D8F6	0.57 (0.260)
115	26.53	2.00	LX1D8FE5	–	–	–	0.57 (0.260)
120	–	–	–	24.02	1.70	LX1D8G6	0.57 (0.260)
127	32.75	2.44	LX1D8FC5	–	–	–	0.57 (0.260)
208	–	–	–	67.92	5.06	LX1D8L6	0.57 (0.260)
220	104.77	7.65	LX1D8M5	79.61	5.69	LX1D8M6	0.57 (0.260)
230	104.77	8.29	LX1D8P5	–	–	–	0.57 (0.260)
240	125.25	8.89	LX1D8U5	97.04	6.75	LX1D8U6	0.57 (0.260)
277	–	–	–	125.75	8.89	LX1D8W6	0.57 (0.260)
380	338.51	22.26	LX1D8Q5	243.07	17.04	LX1D8Q6	0.57 (0.260)
400	368.43	25.55	LX1D8V5	–	–	–	0.57 (0.260)
415	368.43	27.65	LX1D8N5	–	–	–	0.57 (0.260)
440	441.56	30.34	LX1D8R5	338.51	22.26	LX1D8R6	0.57 (0.260)
480	–	–	–	368.43	25.55	LX1D8T6	0.57 (0.260)
500	566.62	38.12	LX1D8S5	–	–	–	0.57 (0.260)

For 3 or 4-pole contactors LC1D115, D150

Specifications

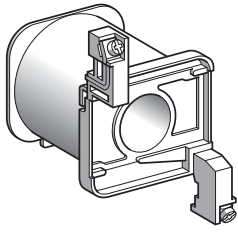
Average consumption at 20 °C (68 °F):
 - inrush: cos φ = 0.9 - 280 to 350 VA,
 - sealed: cos φ = 0.9 - 2 to 18 VA.
 Operating range (θ ≤ 55 °C / 131 °F): 0.8 to 1.15 U_c.
 Coils with integral suppression device fitted as standard, class B.

						50/60 Hz	
24	–	–	–	147	3.03	LX1D8B7	0.64 (0.290)
32	–	–	–	301	8.28	LX1D8C7	0.64 (0.290)
42	–	–	–	498	13.32	LX1D8D7	0.64 (0.290)
48	–	–	–	1061	24.19	LX1D8E7	0.64 (0.290)
110	–	–	–	4377	109.69	LX1D8F7	0.64 (0.290)
115	–	–	–	4377	109.69	LX1D8FE7	0.64 (0.290)
120	–	–	–	4377	109.69	LX1D8G7	0.64 (0.290)
127	–	–	–	6586	152.65	LX1D8FC7	0.64 (0.290)
208	–	–	–	10 895	260.15	LX1D8LE7	0.64 (0.290)
220	–	–	–	9895	210.72	LX1D8M7	0.64 (0.290)
230	–	–	–	9895	210.72	LX1D8P7	0.64 (0.290)
240	–	–	–	9895	210.72	LX1D8U7	0.64 (0.290)
277	–	–	–	21 988	533.17	LX1D8UE7	0.64 (0.290)
380	–	–	–	21 011	482.42	LX1D8Q7	0.64 (0.290)
400	–	–	–	21 011	482.42	LX1D8V7	0.64 (0.290)
415	–	–	–	21 011	482.42	LX1D8N7	0.64 (0.290)
440	–	–	–	21 501	507.47	LX1D8R7	0.64 (0.290)
480	–	–	–	32 249	938.41	LX1D8T7	0.64 (0.290)
500	–	–	–	32 249	938.41	LX1D8S7	0.64 (0.290)

(1) The last two characters of the reference represent the voltage code.

TeSys™ D-Line Contactors and Starters

Selection of DC Coils



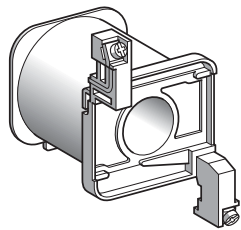
LX4D6●●

DC Coils for 3-pole Contactors LC1D40 to D65 or 4-pole Contactors LP1D65

Control circuit voltage U _c	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number (1)	Weight lb (kg)
V	Ω	H		
Specifications				
Average consumption: 22 W. Operating range: 0.85 to 1.1 U _c .				
12	7.1	0.44	LX4D6JD	0.91 (0.415)
24	26.8	1.69	LX4D6BD	0.91 (0.415)
36	58	3.55	LX4D6CD	0.91 (0.415)
48	109	6.86	LX4D6ED	0.91 (0.415)
60	173	10.9	LX4D6ND	0.91 (0.415)
72	234	14.7	LX4D6SD	0.91 (0.415)
110	560	35.28	LX4D6FD	0.91 (0.415)
125	717	45.2	LX4D6GD	0.91 (0.415)
220	2255	142	LX4D6MD	0.91 (0.415)
250	2940	185	LX4D6UD	0.91 (0.415)
440	9080	572	LX4D6RD	0.91 (0.415)

For 3-pole contactors LC1D80 or 4-pole contactors LP1D80

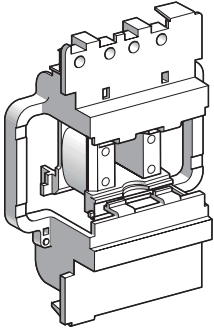
Specifications				
Average consumption: 22 W. Operating range: 0.85 to 1.1 U _c .				
12	6.6	0.46	LX4D7JD	1.50 (0.680)
24	27	1.89	LX4D7BD	1.50 (0.680)
36	57	4	LX4D7CD	1.50 (0.680)
48	107	7.5	LX4D7ED	1.50 (0.680)
60	170	11.9	LX4D7ND	1.50 (0.680)
72	230	16.1	LX4D7SD	1.50 (0.680)
110	564	39.5	LX4D7FD	1.50 (0.680)
125	718	50.3	LX4D7GD	1.50 (0.680)
220	2215	155	LX4D7MD	1.50 (0.680)
250	2850	200	LX4D7UD	1.50 (0.680)
440	9195	640	LX4D7RD	1.50 (0.680)



LX4D7●●

(1)1 The last two characters of the reference represent the voltage code.

TeSys™ D-Line Contactors and Starters Selection of DC Coils



LX4D8•D

DC Coils for 3 or 4-pole Contactors LC1D115, D150

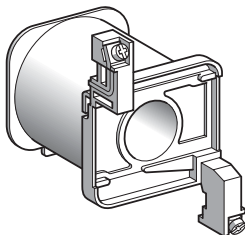
Control circuit voltage Uc	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number(1)	Weight lb (kg)
V	Ω	H		

Specifications

Consumption: inrush 270 to 365 W, sealed 2.4 to 5.1 W.
Operating range: 0.7 to 1.2 Uc.
Coils have integral suppression device as standard, class B.

24	147	3.03	LX4D8BD	0.66 (0.300)
48	1061	24.19	LX4D8ED	0.66 (0.300)
60	1673	38.44	LX4D8ND	0.66 (0.300)
72	2500	56.27	LX4D8SD	0.66 (0.300)
110	4377	109.69	LX4D8FD	0.66 (0.300)
125	6586	152.65	LX4D8GD	0.66 (0.300)
220	9895	210.72	LX4D8MD	0.66 (0.300)
250	18 022	345.40	LX4D8UD	0.66 (0.300)
440	21 501	684.66	LX4D8RD	0.66 (0.300)

(1) The last two characters of the reference represent the voltage code.



LX4D6••

Wide Range DC Coils for 3-pole Contactors LC1D40 to D65 or 4-pole Contactors LP1 to D65

Control circuit voltage Uc	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Catalog Number(1)	Weight lb (kg)
V	Ω	H		

Specifications

Average consumption: 22 W.
Operating range: 0.75 to 1.2 Uc.
Coils with "TH" treatment as standard.

12	6.8	0.45	LX4D6JW	0.91 (0.415)
24	30	1.9	LX4D6BW	0.91 (0.415)
36	53	3.5	LX4D6CW	0.91 (0.415)
48	110	7.2	LX4D6EW	0.91 (0.415)
72	215	14.2	LX4D6SW	0.91 (0.415)
110	580	38.3	LX4D6FW	0.91 (0.415)
220	2120	140	LX4D6MW	0.91 (0.415)

For 3-pole contactors LC1D80 or 4-pole contactors LP1D80

Specifications

Average consumption: 23 W.
Operating range: 0.75 to 1.2 Uc.
Coils with "TH" treatment as standard.

12	6.2	0.49	LX4D7JW	1.50 (0.680)
24	23.5	1.75	LX4D7BW	1.50 (0.680)
36	51.9	4.18	LX4D7CW	1.50 (0.680)
48	94.2	7	LX4D7EW	1.50 (0.680)
72	204	15.7	LX4D7SW	1.50 (0.680)
110	483	36	LX4D7FW	1.50 (0.680)
220	1922	144	LX4D7MW	1.50 (0.680)

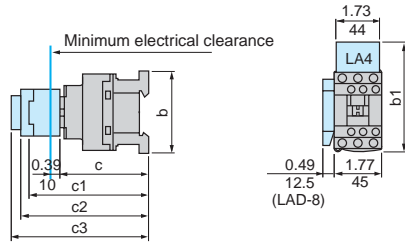
(1) The last two characters of the reference represent the voltage code.

TeSys™ D-Line Contactors and Starters

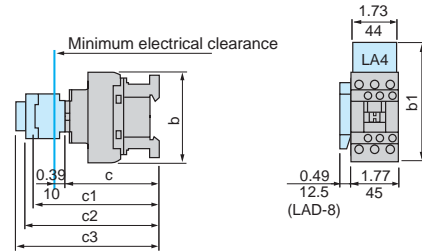
Dimensions for Type LC1D Contactors

D-Line Contactors AC Control Circuits

LC1D09 to D18 (3-pole)



LC1D25 to D38 (3-pole)
LC1D20 to DT40 (4-pole)

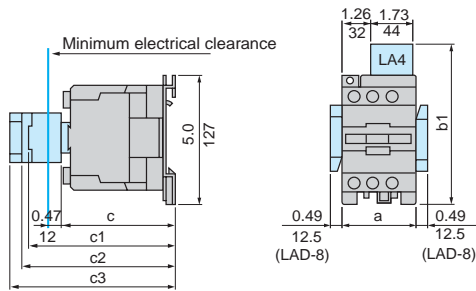


LC1		D09 to D18	D093 to D183	D099 to D189	D25 to D38	D253 and D323	DT20 and DT25	DT203 and DT253	DT32 to DT40	DT323 and DT403
b	without add-on blocks	3.03 (77)	3.89 (99)	3.14 (80)	3.36 (85)	3.89 (99)	3.34 (85)	3.89 (99)	3.58 (91)	4.13 (105)
b1	with LAD4BB	3.70 (94)	4.21 (107)	3.75 (95.5)	3.85 (98)	4.21 (107)	3.85 (98)	—	—	—
	with LA4D*2	4.33 (110) (1)	4.84 (123) (1)	4.30 (111.5) (1)	4.48 (114) (1)	4.84 (123) (1)	4.48 (114)	—	—	—
	with LA4DF, DT	4.68 (119) (1)	5.19 (132) (1)	4.76 (120.5) (1)	4.84 (123) (1)	5.19 (132) (1)	5.02 (129)	—	—	—
	with LA4DR, DW, DL	4.96 (126) (1)	5.67 (139) (1)	5.0 (127.5) (1)	5.11 (130) (1)	5.47 (139) (1)	7.48 (190)	—	—	—
c	without cover or add-on blocks	3.30 (84)	3.30 (84)	3.30 (84)	3.54 (90)	3.54 (90)	3.54 (90)	3.54 (90)	3.85 (98)	3.85 (98)
	with cover, without add-on blocks	3.38 (86)	3.38 (86)	3.38 (86)	3.62 (92)	3.62 (92)	3.62 (92)	3.62 (92)	3.93 (100)	3.93 (100)
c1	with LADN or C (two or four contacts)	4.60 (117)	4.60 (117)	4.60 (117)	4.84 (123)	4.84 (123)	4.84 (123)	4.84 (123)	5.15 (131)	5.15 (131)
c2	with LA6DK10, LAD6K10	5.07 (129)	5.07 (129)	5.07 (129)	5.31 (135)	5.31 (135)	5.31 (135)	5.31 (135)	5.62 (143)	5.62 (143)
c3	with LADT, R, S	5.39 (137)	5.39 (137)	5.39 (137)	5.62 (143)	5.62 (143)	5.62 (143)	5.62 (143)	5.94 (151)	5.94 (151)
	with LADT, R, S and sealing cover	5.55 (141)	5.59 (141)	5.55 (141)	5.78 (147)	5.78 (147)	5.78 (147)	5.78 (147)	6.10 (155)	6.10 (155)

(1) Including LAD4BB

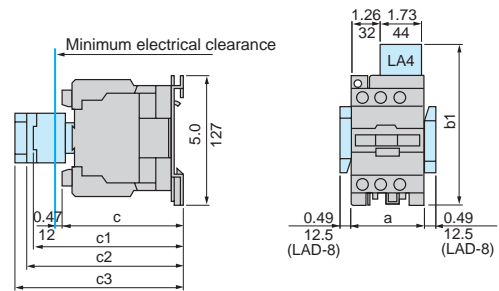
LC1D40 to D65 (3-pole)

LC1D65004, D40008 and D65008 (4-pole)



LC1D80 and D95 (3-pole)

LC1D80004 and D80008 (4-pole)

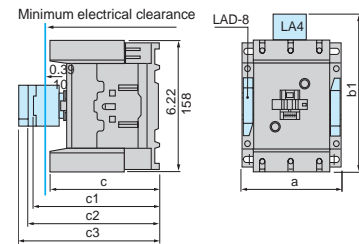


LC1		D40 to D65	D40008	D80 D65004	D95 D65008	D80004	D80008
a		2.95 (75)	3.34 (85)	3.34 (85)	3.34 (85)	96	96
b1	with LA4D*2	5.31 (135)	5.31 (135)	5.31 (135)	5.31 (135)	5.31 (135)	5.31 (135)
	with LA4DB3	—	—	5.31 (135)	—	—	—
	with LA4DF, DT	5.59 (142)	5.59 (142)	5.59 (142)	5.59 (142)	5.59 (142)	5.59 (142)
	with LA4DM, DR, DW, DL	5.90 (150)	5.90 (150)	5.90 (150)	5.90 (150)	5.90 (150)	5.90 (150)
c	without cover or add-on blocks	4.72 (114)	4.92 (125)	4.92 (125)	4.92 (125)	4.92 (125)	5.51 (140)
	with cover, without add-on blocks	4.68 (119)	—	5.11 (130)	5.11 (130)	—	—
c1	with LADN (one contact)	5.47 (139)	5.47 (139)	5.90 (150)	5.90 (150)	5.90 (150)	5.90 (150)
	with LADN or C (two or four contacts)	5.78 (147)	5.78 (147)	6.22 (158)	6.22 (158)	6.22 (158)	6.22 (158)
c2	with LA6DK	6.25 (159)	6.25 (159)	6.69 (170)	6.69 (170)	6.69 (170)	6.69 (170)
	with LADT, R, S	6.57 (167)	6.57 (167)	7.00 (178)	7.00 (178)	7.00 (178)	7.00 (178)
c3	with LADT, R, S and sealing cover	6.73 (171)	6.73 (171)	7.16 (182)	7.16 (182)	7.16 (182)	7.16 (182)

LC1D115 and D150 (3-pole)

LC1D115004 (4-pole)

LC1		D115 D150	D115004	D115006	D150006	D1150046
a		4.72 (120)	5.90 (150)	4.72 (120)	4.72 (120)	6.10 (155)
b1	with LA4DA2	6.85 (174)	6.85 (174)	6.85 (174)	6.85 (174)	6.85 (174)
	with LA4DF, DT	7.28 (185)	7.28 (185)	7.28 (185)	7.28 (185)	7.28 (185)
	with LA4DM, DR, DL	7.40 (188)	7.40 (188)	7.40 (188)	7.40 (188)	7.40 (188)
	with LA4DW	7.40 (188)	7.40 (188)	7.40 (188)	—	7.40 (188)
c	without cover or add-on blocks	5.1'9 (132)	5.1'9 (132)	4.52 (115)	4.52 (115)	4.52 (115)
	with cover, without add-on blocks	5.35 (136)	—	—	—	—
c1	with LADN or C (two or four contacts)	5.90 (150)	5.90 (150)	5.90 (150)	5.90 (150)	5.90 (150)
c2	with LA6DK20	6.10 (155)	6.10 (155)	6.10 (155)	6.10 (155)	6.10 (155)
c3	with LADT, R, S	6.61 (168)	6.61 (168)	6.61 (168)	6.61 (168)	6.61 (168)
	with LADT, R, S and sealing cover	6.77 (172)	6.77 (172)	6.77 (172)	6.77 (172)	6.77 (172)



Selection: pages 142, 143

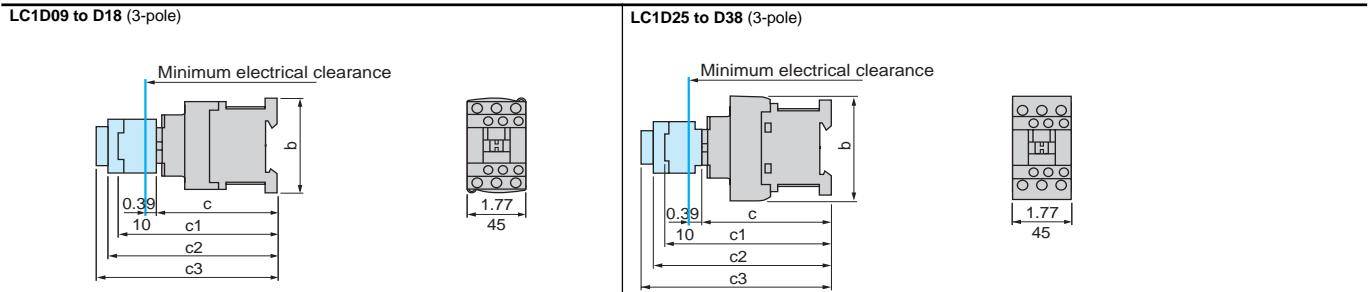
Characteristics: pages 84, 85

Schematics: pages 126, 127

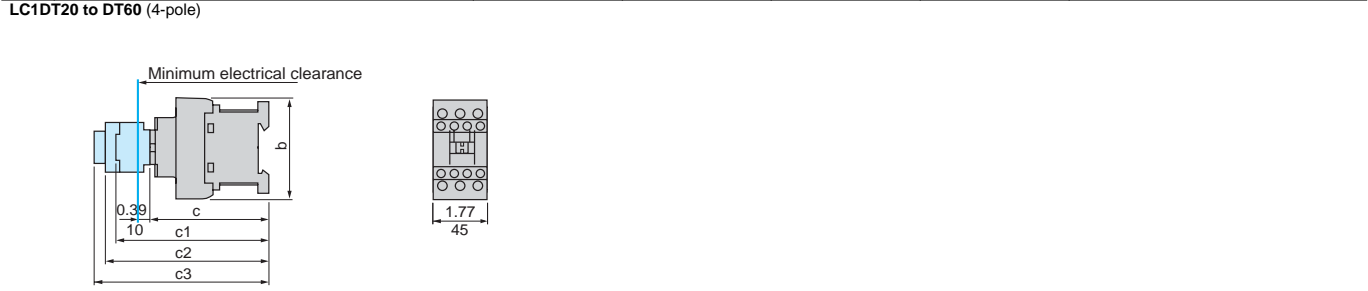
TeSys™ D-Line Contactors and Starters

Dimensions for Type LC1D Contactors

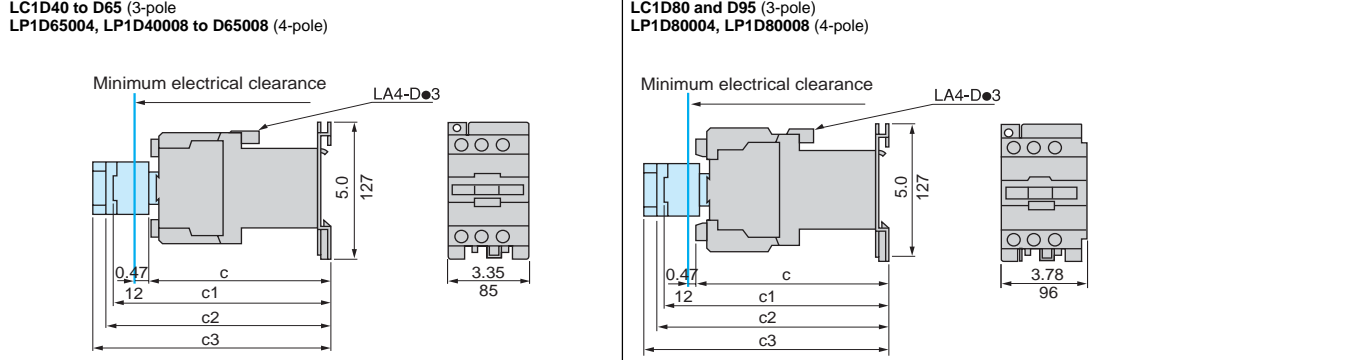
D-Line Contactors DC Control Circuit or Low Consumption



LC1	D09 to D18	D093 to D183	D099 to D189	D25 to D38	D253 and D383
b	3.03 (77)	3.89 (99)	3.30 (80)	3.34 (85)	3.89 (99)
c	without cover or add-on blocks	3.66 (93)	3.66 (93)	3.89 (99)	3.89 (99)
	with cover, without add-on blocks	3.76 (95)	3.76 (95)	3.97 (101)	3.97 (101)
c1	with LADN or C (two or four contacts)	4.96 (126)	4.96 (126)	5.19 (132)	5.19 (132)
c2	with LA6DK10	5.43 (138)	5.43 (138)	5.66 (144)	5.66 (144)
c3	with LADT, R, S	5.76 (146)	5.76 (146)	5.98 (152)	5.98 (152)
	with LADT, R, S and sealing cover	5.90 (150)	5.76 (146)	5.76 (146)	6.14 (156)



LC1	DT20 and DT25 D098 and D128	DT203 and DT253 D0983 and D1283	DT32 to DT40 D188 to D258	DT323 and DT403 D1883 and D2583
b	3.34 (85)	3.89 (99)	3.58 (91)	4.13 (105)
c	with cover	3.56 (90)	3.54 (98)	3.54 (98)
c1	with LADN or C (two or four contacts)	4.84 (123)	5.15 (131)	5.15 (131)
c2	with LA6DK10	5.31 (135)	5.62 (143)	5.62 (143)
c3	with LADT, R, S	5.62 (143)	5.94 (151)	5.94 (151)
	with LADT, R, S and sealing cover	5.78 (147)	6.10 (155)	6.10 (155)



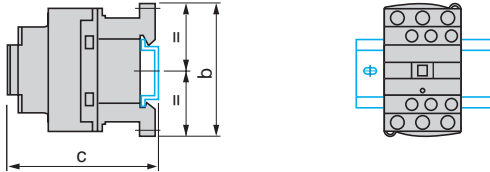
	LC1 D40 to D65	LP1D65004	LP1D40008 and D65008	LC1 D80 and D95	LP1 D80004	LP1 D80008
c	without cover or add-on blocks	6.73 (171)	7.46 (182)	7.40 (181)	7.40 (181)	–
	with cover, without add-on blocks	6.92 (176)	–	7.32 (186)	–	8.03 (204)
c1	with LADN (1 contact)	7.71 (196)	7.71 (196)	8.03 (204)	8.03 (204)	8.26 (210)
	with LADN or C (2 or 4 contacts)	7.95 (202)	7.95 (202)	8.26 (210)	8.26 (210)	8.70 (221)
c2	with LA6DK10	8.38 (213)	8.38 (213)	8.70 (221)	8.70 (221)	9.01 (229)
c3	with LADT, R, S	8.70 (221)	8.70 (221)	9.01 (229)	9.01 (229)	9.17 (233)

Selection: pages 92 Characteristics: pages 80 - 87 Schematics: pages 126, 127

TeSys™ D-Line Contactors and Starters

Mounting Information for Type LC1D and LP1D Contactors

On mounting rail AM1DP200, DR200 or AM1DE200 (width 35 mm)
LC1D09 to D38, DT20 to DT60



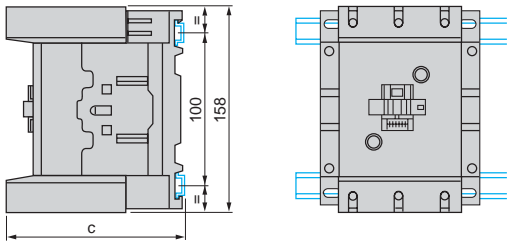
LC1	D09 to D18	D25 to D38	DT20 and DT25	DT32 to DT40
b	3.03 (77)	3.36 (85)	3.36 (85)	3.93 (100)
c (AM1DP200 or DR200) (1)	3.46 (88)	3.70 (94)	3.70 (94)	4.29 (109)
c (AM1DE200) (1)	3.77 (96)	4.01 (102)	4.01 (102)	4.60 (117)

dc control circuit

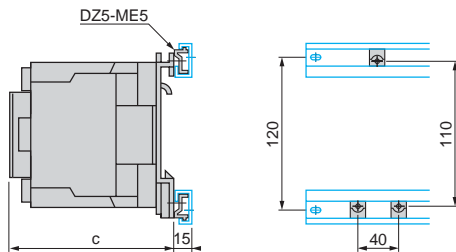
b	3.03 (77)	3.36 (85)	3.70 (94)	4.29 (109)
c (AM1DP200 or DR200) (1)	3.81 (97)	4.05 (103)	4.05 (103)	4.64 (118)
c (AM1DE200) (1)	4.13 (105)	4.33 (110)	4.37 (111)	4.84 (123)

(1) with safety cover

On two mounting rails DZ5MB at 120 mm center
LC1D115, D150



On two mounting rails DZ5MB at 120 mm center
LC1D40 to D95, LP1D40 to D80



ac control circuit

LC1	D40 to D65	D80 and D95
c with cover	4.70 (119)	5.11 (130)

dc control circuit

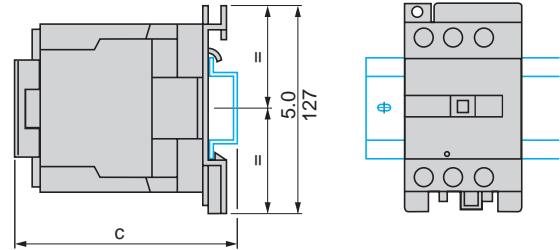
LC1	D40 to D65	D80 and D95
c with cover	6.92 (176)	7.32 (186)
LP1	D40 and D65	D80
c	6.73 (171)	7.12 (181)

Selection: pages 88

Characteristics: pages 80 - 87

Schematics: pages 126, 127

On mounting rail AM1DL200 or DL201 (width 75 mm)
 On mounting rail AM1ED*** or AM1DE200 (width 35 mm)
LC1D40 to D95, LP1D40 to D80



ac control circuit

LC1	D40 to D65	D80 and D95
c (AM1DL200) (1)	5.35 (136)	5.78 (147)
c (AM1DL201) (1)	4.96 (126)	5.39 (137)
c (AM1ED*** or DE200) (1)	4.96 (126)	5.39 (137)

dc control circuit

LC1	D40 to D65	D80 and D95
c (AM1DL200) (1)	7.59 (193)	7.99 (203)
c (AM1DL201) (1)	7.20 (183)	7.99 (203)

LP1	D40	D65	D80
c (AM1DL200)	7.40 (188)	7.40 (188)	7.78 (198)
c (AM1DL201)	7.00 (178)	7.00 (178)	7.78 (198)

(1) with safety cover

ac or dc control circuit

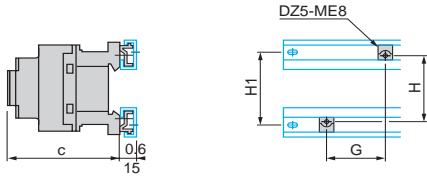
LC1	D115 and D150	D1156 and D1506
c (AM1DP200 or DR200)	134.5	117.5
c (AM1DE200 or ED***)	142.5	125.5

TeSys™ D-Line Contactors and Starters

Mounting Information for Type LC1D and LP1D Contactors

LC1D09 to D38 and LC1DT20 to DT60

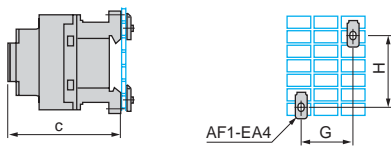
On two mounting rails DZ5MB



Control circuit:	ac		dc	
	D09 to D18	D25 to D38	D09 to D18	D25 to D38
LC1				
c with cover	3.38 (86)	3.62 (92)	3.76 (95)	3.97 (101)
G	1.37 (35)	1.37 (35)	1.37 (35)	1.37 (35)
H	2.36 (60)	2.36 (60)	2.36 (60)	2.36 (60)
H1	2.75 (70)	2.75 (70)	2.75 (70)	2.75 (70)
4-pole contactors				
LC1	DT20 and DT25	DT32 to DT60	DT20 and DT25	DT32 to DT60
c	3.62 (92)	3.93 (100)	3.97 (101)	4.29 (109)
G	5.31 (135)	1.57/1.96 (40/50)	1.37 (35)	1.37 (35)
H	2.36 (60)	2.36 (60)	2.36 (60)	2.36 (60)
H1	2.75 (70)	2.75 (70)	2.75 (70)	2.75 (70)

LC1D09 to D38 and LC1DT20 to DT60

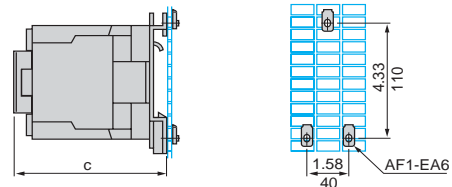
On pre-slotted mounting plate AM1PA, PB, PC



Control circuit:	ac		dc	
	D09 to D18	D25 to D38	D09 to D18	D25 to D38
LC1				
c with cover	3.38 (86)	3.62 (92)	3.76 (95)	3.97 (101)
G	1.37 (35)	1.37 (35)	1.37 (35)	1.37 (35)
c with cover	3.38 (86)	3.62 (92)	3.74 (95)	3.97 (101)
4-pole contactors				

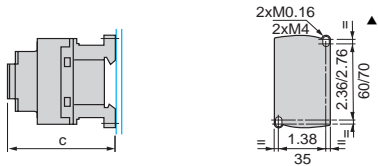
LC1D40 to D95, LP1D40 to D80

On pre-slotted mounting plate AM1PA, PB, PC



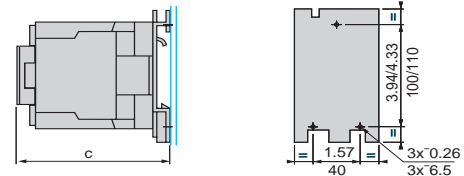
Control circuit:	ac				dc			
	D09 to D18	D25 to D38	D09 to D18	D25 to D38	D40 to D65	D80 and D95	D40 to D65	D80 and D95
LC1								
c	3.14 (80)	3.66 (93)	4.64 (118)	5.19 (132)	4.68 (119)	5.11 (130)	6.92 (176)	7.32 (186)
G	1.37 (35)	1.37 (35)	1.37 (35)	1.37 (35)	-	-	D40 and D65	D80
H	2.36 (60)	2.36 (60)	2.36 (60)	2.36 (60)	-	-	6.73 (171)	7.12 (181)
Note: Units with DC coils have round mounting holes ONLY and are spaced at 70 mm.								

LC1D09 to D38 Panel mounted



Control circuit:	ac		dc	
	D09 to D18	D25 to D38	D09 to D18	D25 to D38
LC1				
c with cover	3.38 (86)	3.62 (92)	3.76 (95)	3.97 (101)
4-pole contactors				
LC1	DT20 and DT25	DT32 to DT60	DT20 and DT25	DT32 to DT60
c with cover	3.54 (90)	3.85 (98)	3.54 (90)	3.85 (98)

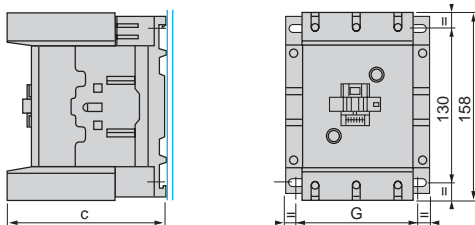
LC1D40 to D95, LP1D40 to D80 Panel mounted



Control circuit:	ac		dc	
	D40 to D65	D80 and D95	D40 to D65	D80 and D95
LC1				
c with cover	4.68 (119)	5.11 (130)	6.92 (176)	7.92 (186)
LP1	-	-	D40 and D65	D80
c without cover	-	-	6.73 (171)	7.12 (181)

LC1D115, D150

Panel mounted



LC1	D115	D1156	D150	D1506
c	5.19 (132)	4.52 (115)	5.19 (132)	4.52 (115)
G (3-pole)	3.77/4.33 (96/110)	3.77/4.33 (96/110)	3.77/4.33 (96/110)	3.77/4.33 (96/110)
G (4-pole)	5.11/5.66 (130/144)	5.11/5.66 (130/144)	-	-

Selection: pages 88

Characteristics: pages 80 - 87

Schematics: pages 126, 127

▲ Units with DC coils have round mounting holes ONLY and are spaced at 70 mm.

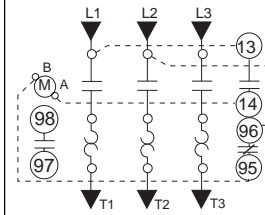
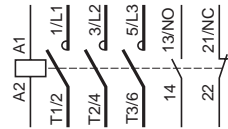
TeSys™ D-Line Contactors and Starters

Schematics for Type LC1D Contactors

3-Pole Contactors

AC Magnetic 3-Pole Contactor with Overload Relay

LC1D09 to D150

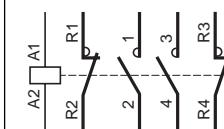
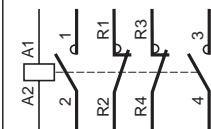
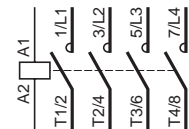


4-Pole Contactors

LC1 and LP1
D12004 to D80004
LC1D115004

LC1 and LP1
D12008 to D25008

LC1 and LP1
D40008 to D80008



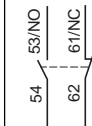
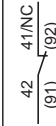
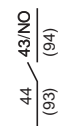
Front Mounting Add-on Contact Blocks Instantaneous Auxiliary Contacts

One N.O. LADN10 (1)

One N.C. LADN01 (1)

One N.O. + 1 N.C. LADN11

Two N.O. LADN20

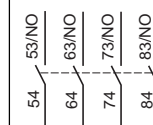
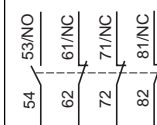
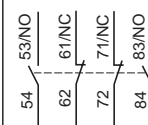
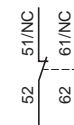


Two N.C. LADN02

Two N.O. + two N.C. LADN22

One N.O. + three N.C. LADN13

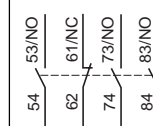
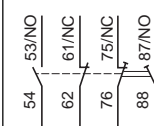
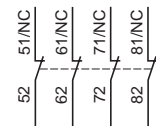
Four N.O. LADN40



Four N.C. LADN04

Two N.O. + two N.C. including one N.O. + one N.C. make before break LADC22

Three N.O. + one N.C. LADN31



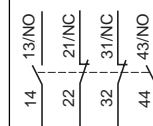
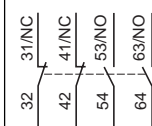
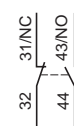
Front Mounting Add-on Contact Blocks Instantaneous Auxiliary Contacts Conforming to Standard EN 50012

One N.O. + one N.C. LADN11G

One N.O. + one N.C. LADN11P

Two N.O. + two N.C. LADN22G

Two N.O. + two N.C. LADN22P



(1) Items in brackets are for blocks mounted on right-hand side of contactor.

TeSys™ D-Line Contactors and Starters Schematics for Type LC1D Contactors

Front Mounting Add-on Contact Blocks

Dust and Damp Protected Instantaneous Auxiliary Contacts

Two N.O. (24-50 V) LA1DX20	Two N.C. (24-50 V) LA1DX02	Two N.O. (5-24 V) LA1DY20	Two N.O. protected (24-50 V) Two N.O. standard LA1DZ40	Two N.O. protected (24-50 V) + one N.O. + one N.C. standard LA1DZ31

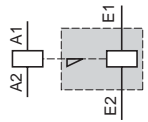
Front Mounting Add-on Contact Blocks

Time-delay Auxiliary Contacts

On-delay one N.O. + one N.C. LADT	Off-delay one N.O. + one N.C. LADR	On-delay N.C. with one N.O. break before make LADS

Mechanical Latch Blocks

LA6DK10 and LA6DK20



Side Mounting Add-on Contact Blocks

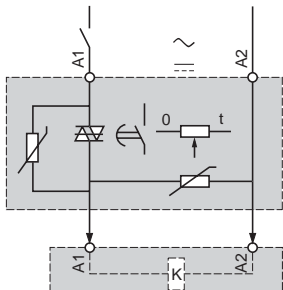
Instantaneous Auxiliary Contacts

One N.O. + one N.C. LAD8N11 (1)	Two N.O. LAD8N20 (1)	Two N.C. LAD8N02 (1)

(1) Items in Brackets are for Blocks Mounted on Right-hand Side of Contactor

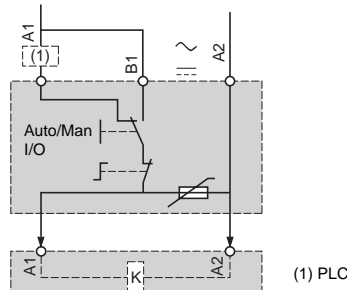
Electronic serial timer modules

On-delay LA4DT•U



Auto-Man-Stop modules

LA4DM• (1) PLC



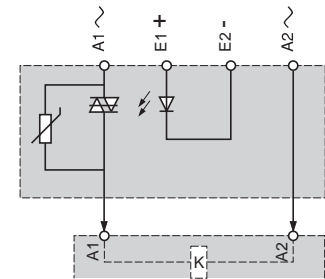
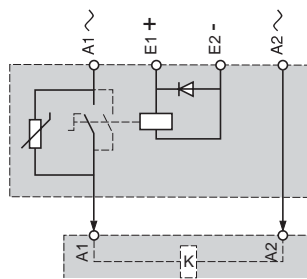
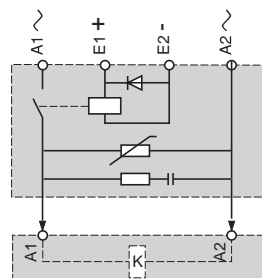
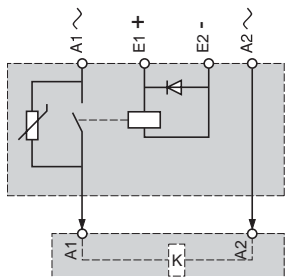
Interface Modules

Relay interface
LA4DF•

LA4DFBQ

Relay interface with
override switch LA4DL•

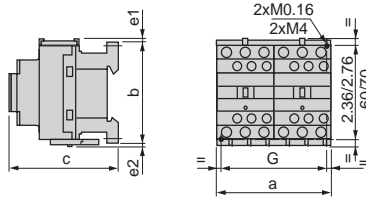
Solid state
LA4DWB•



TeSys™ D-Line Contactors and Starters

Dimensions for Type LC2D Contactors

LC2D09 to D38
2 x LC1D09 to D38

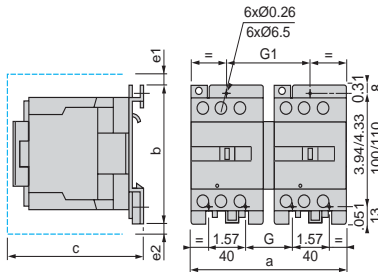


LC2 or 2 x LC1	a	b	c (1)	e1	e2	G
D09 to D18 ac	3.54 (90)	3.03 (77)	3.38 (86)	0.15 (4)	0.05 (1.5)	3.14 (80)
D093 to D183 ac	3.54 (90)	3.89 (99)	3.38 (86)	–	–	3.14 (80)
D09 to D18 dc	3.54 (90)	3.03 (77)	3.74 (95)	0.15 (4)	0.05 (1.5)	3.14 (80)
D093 to D183 dc	3.54 (90)	3.89 (99)	3.74 (95)	–	–	3.14 (80)
D12004	–	2.91 (74)	3.14 (80)	–	0.23 (6)	3.74 (95)
D25 to D38 ac	3.54 (90)	3.34 (85)	3.62 (92)	0.35 (9)	0.19 (5)	3.14 (80)
D253 to D383 ac	3.54 (90)	3.89 (99)	3.62 (92)	–	–	3.14 (80)
D25 to D32 dc	3.54 (90)	3.34 (85)	3.97 (101)	0.35 (9)	0.19 (5)	3.14 (80)
D253 to D383 dc	3.54 (90)	3.89 (99)	3.97 (101)	–	–	3.14 (80)
D25004	–	3.30 (84)	3.66 (93)	–	0.22 (7)	4.37 (111)

e1 and e2: including cabling.

(1) With safety cover, without add-on block.

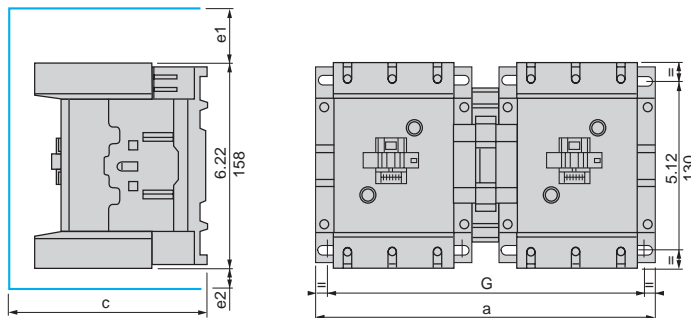
LC2D40 to D65
2 x LC1D40 to D65



LC2 or 2 x LC1	a	b	c	e1	e2	G	G1
D40 to D65	6.49 (165)	5.0 (127)	5.6 (142)	0.49 (5)	–	1.96 (50)	3.54 (90)
D40004	7.16 (182)	5.0 (127)	5.2 (133)	–	0.78 (11)	2.24 (57)	3.81 (97)
D65004	7.16 (182)	5.0 (127)	5.2 (133)	–	0.78 (11)	2.24 (57)	3.81 (97)
D80 and D95	7.16 (182)	5.0 (127)	6.2 (158)	0.5 (13)	–	2.24 (57)	3.77 (96)
D80004	8.14 (207)	5.0 (127)	6.2 (158)	–	1.78 (20)	2.79 (71)	4.37 (111)

c, e1 and e2: including cabling.

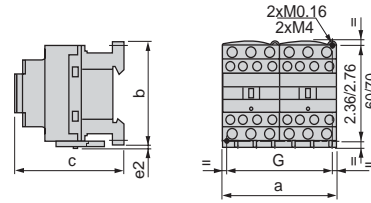
LC2D115 and D150
2 x LC1D115 and D150



LC2 or 2 x LC1	a	c	e1	e2	G
D115, D150	10.5 (266)	5.9 (148)	2.2 (56)	0.7 (18)	9.5/10.0 (242/256)
D115004	13.1 (334)	5.9 (148)	–	2.4 (60)	12.2/12.7 (310/324)

c, e1 and e2: including cabling.

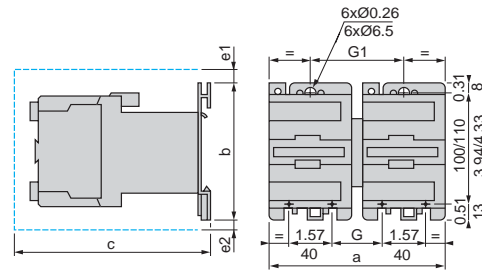
LC2DT20 to DT60
2 x LC1DT20 to DT60



LC2 or 2 x LC1	a	b	c	G
DT20 and DT25	3.54 (90)	3.34 (85)	3.54 (90)	3.14 (80)
DT32 to DT60	3.54 (90)	3.58 (91)	3.85 (98)	3.14 (80)

c, e2: including cabling.

2 x LP1D40 and D65



LC2 or 2 x LC1	a	b	c	e1	e2	G	G1
D40 to D65	7.16 (182)	5.0 (127)	7.4 (190)	1.19 (5)	0.43 (11)	2.2 (57)	3.8 (97)
D80 and D95	8.14 (207)	11.0 (127)	8.4 (215)	0.51 (13)	0.78 (20)	3.7 (96)	4.3 (111)

c, e1 and e2: including cabling.

Selection: pages 93

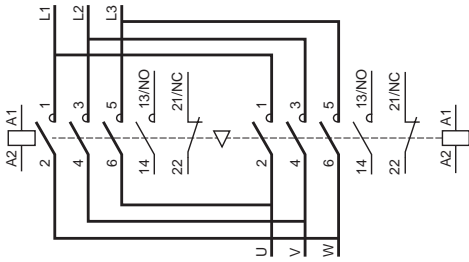
Characteristics: pages 80, 87

Schematics: pages 129

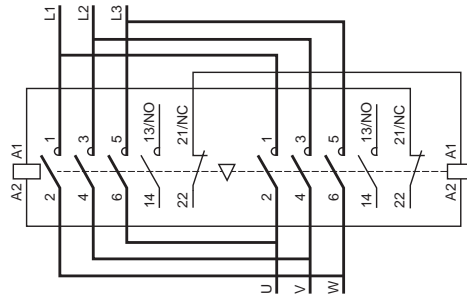
TeSys™ D-Line Contactors and Starters

Schematics for Type LC2D Contactors

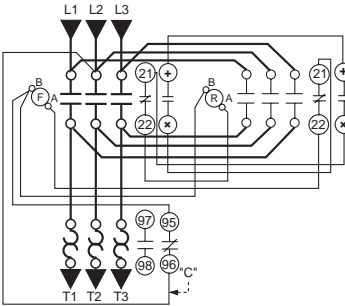
Reversing contactors for motor control, horizontally mounted LC2D09 to D150



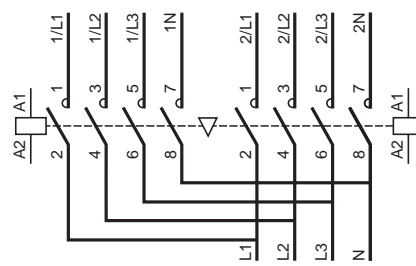
Reversing contactors for motor control with integral electrical interlocking (LAD9R1V)



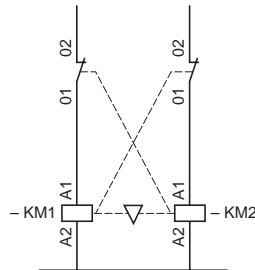
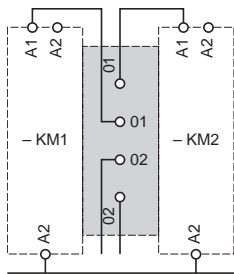
Reversing contactor with overload relay



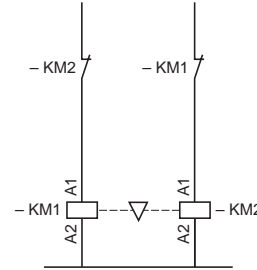
Changeover contactor pairs, horizontally mounted LC2DT20 to DT60



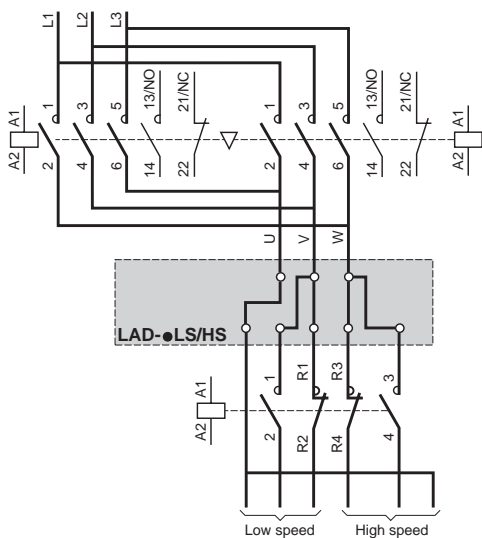
Electrical interlocking of contactors using:
mechanical interlock with integral electrical contacts LA9D•••02



Mechanical interlock without integral electrical contacts LA9D•••78, LAD9R1



Low speed - High speed cabling kit



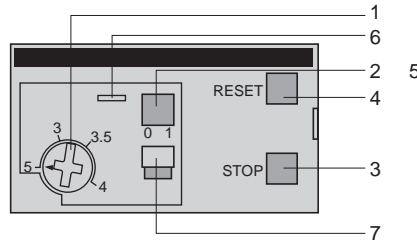
TeSys™ D-Line Contactors and Starters

LR2 and LR3D 3-pole Bimetallic Overload Relays

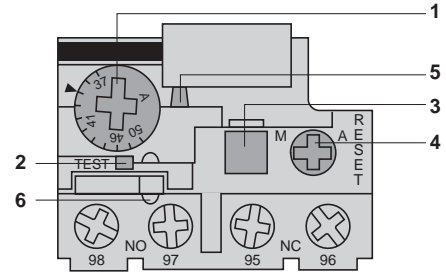
Description

D-Line 3-pole thermal overload relays are designed to protect ac circuits and motors against overloads, phase failure, long starting times and prolonged stalling of the motor.

LRD01 to 35



LRD3322 to 4369, LR2D



- 1 Adjustment dial Ir
- 2 Test button
Operation of the Test button allows:
 - checking of control circuit wiring,
 - simulation of relay tripping (actuates both the N.O. and N.C. contacts).
- 3 Stop button. Actuates the N.C. contact; does not affect the N.O. contact.
- 4 Reset button
- 5 Trip indicator
- 6 Setting locked by sealing the cover.
- 7 Selector for manual or automatic reset. Relays LRD01 to LRD35 are supplied with the selector in the manual position, protected by a cover. Deliberate action is required to move it to the automatic position.

Environment

Conforming to standards			IEC 60947-1, IEC 60947-4-1, NF C 63-650, VDE 0660, BS 4941
Product certifications			CSA, UL, Sichere Trennung, PTB except LAD4: UL, CSA.
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Protective treatment	Conforming to IEC 60068		"TH"
Ambient air temperature around the device	Storage	°C	- 60 to + 70 (- 140 to + 158 °F)
	Normal operation, without derating (IEC 60947-4-1)	°C	- 20 to + 60 (- 68 to + 140 °F)
	Minimum and maximum operating temperatures (with derating)	°C	- 40 to + 70 (- 104 to + 158 °F)
Operating positions without derating	In relation to normal, vertical mounting plane		Any position
Shock resistance	Permissible acceleration conforming to IEC 60068-2-7		15 gn - 11 ms
Vibration resistance	Permissible acceleration conforming to IEC 60068-2-6		6 gn
Dielectric strength at 50 Hz	Conforming to IEC 60255-5	kV	6
Impulse withstand voltage	Conforming to IEC 60801-5	kV	6

Auxiliary Contact Characteristics

Conventional rated thermal current		A	5 Amps AC; 1 Amp DC					
Maximum consumption of operating coils of controlled contactors (Occasional operating cycles of contact 95-96)	ac supply	V	24	48	110	220	380	600
		VA	100	200	400	600	600	600
	dc supply	V	24	48	110	220	440	-
		W	100	100	50	45	25	-
Short-circuit protection ●	By gG, BS or Class CC fuse. Max. rating or by GB2 circuit-breaker	A	5 maximum					
Connection to screw clamp terminals			Min - max c.s.a.					
Flexible cable with cable end	One or two conductors	AWG (mm ²)	18 - 14 (1 - 2.5)					
Solid cable without cable end	One or two conductors	AWG (mm ²)	18 - 14 (1 - 2.5)					
Flexible cable without cable end	One or two conductors	AWG (mm ²)	18 - 14 (1 - 2.5)					
Solid cable without cable end	One or two conductors	AWG (mm ²)	18 - 14 (1 - 2.5)					
Tightening torque		lb-in (N.m)	15 (1.7)					

- Select short circuit protection to meet the National Electrical Code or other local codes and standards.

Catalog Numbers: pages 134, 135

Dimensions: pages 138 - 140

TeSys™ D-Line Contactors and Starters

LR2 and LR3D 3-pole Bimetallic Overload Relays

Electrical Characteristics of Power Circuit

Relay type			LRD 01 to 16 LR3 D01 to D16	LR2 D15••	LRD 21 to 35 LR3 D21 to D35	LR2 D25••	LRD 3322 to 33696 LR3 D3322 to D33696	LR2 D35••	LRD 4365 to 4369
Tripping class	To UL 508, IEC 60947-4-1		10	20	10	20	10	20	10
Rated insulation voltage (Ui)	Conforming to IEC 60947-4-1	V	690		690		1000		1000
	Conforming to UL, CSA	V	600		600		600		600 except LRD4369
Rated impulse withstand voltage (Uimp)		kV	6		6		6		6
Frequency limits	Of the operational current	Hz	0 to 400		0 to 400		0 to 400		0 to 400
Setting range	Depending on model	A	0.1 to 13		12 to 38		17 to 104		80 to 140

Connection to screw clamp terminals

Min - max c.s.a.

		AWG (mm ²)	14 - 8 (1.5 - 10)	14 - 8 (1.5 - 10)	10 - 2 (4 - 35)	10 - 1 (4 - 50)
Flexible cable without cable end	One conductor	AWG (mm ²)	14 - 8 (1.5 - 10)	14 - 8 (1.5 - 10)	10 - 2 (4 - 35)	10 - 1 (4 - 50)
Flexible cable with cable end	One conductor	AWG (mm ²)	16 - 12 (1 - 4)	16 - 10 (1 - 6) except LRD21: 16 - 12 (1 - 4)	10 - 2 (4 - 35)	10 - 2 (4 - 35)
Solid cable without cable end	One conductor	AWG (mm ²)	16 - 10 (1 - 6)	14 - 8 (1.5 - 10) except LRD21: 16 - 10 (1 - 6)	12 - 2 (4 - 35)	10 - 1 (4 - 50)
Tightening torque		lb-in (N.m)	15.0 (1.7)	16.4 (1.85)	22.1 (2.5)	100 lb-in

Connection to spring terminals

Min - max c.s.a.

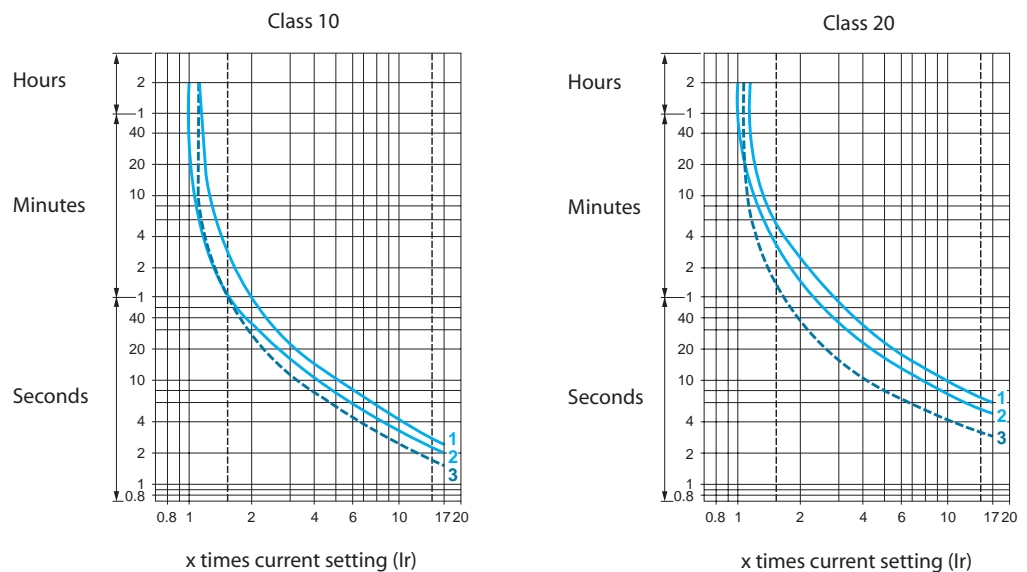
		AWG (mm ²)	14 - 12 (1.5 - 4)	-	14 - 12 (1.5 - 4)	-	-	-
Flexible cable without cable end	One conductor	AWG (mm ²)	14 - 12 (1.5 - 4)	-	14 - 12 (1.5 - 4)	-	-	-
Solid cable without cable end	One conductor	AWG (mm ²)	14 - 12 (1.5 - 4)	-	14 - 12 (1.5 - 4)	-	-	-

Operating Characteristics

Temperature compensation		°C °F	- 20 to + 60 - 68 to + 140	- 30 to + 60 - 86 to + 140	- 30 to + 60 - 86 to + 140	- 20 to + 60 - 68 to + 140
Tripping threshold	Conforming to IEC 60947-4-1	A	1.14 ± 0.06 I _n			
Sensitivity to phase failure	Conforming to IEC 60947-4-1		Tripping current 30% of I _n on one phase, the others at I _n			

Tripping curves

Average operating time
related to multiples of the
current setting



- 1 Balanced operation, 3-phase, from cold state.
- 2 Balanced operation, 2-phase, from cold state.
- 3 Balanced operation, 3-phase, after a long period at the set current (hot state).

Catalog Numbers: pages 134, 135

Dimensions: pages 138 - 140

TeSys™ D-Line Contactors and Starters

LR9D 3-pole Solid-state Overload Relays

Description

	<p>LR9D electronic thermal overload relays are designed for use with contactors LC1D115 and D150.</p> <p>In addition to the protection provided by model d thermal overload relays, (see page 130), they offer the following special features:</p> <ul style="list-style-type: none"> ● Protection against phase imbalance. ● Choice of starting class. ● Protection of unbalanced circuits. ● Protection of single-phase circuits. ● Alarm function to avoid tripping by load shedding.
<p>1 Setting dial I_r</p> <p>2 Test button</p> <p>3 Stop button</p> <p>4 Reset button</p> <p>5 Trip indication</p> <p>6 Setting locked by sealing the cover</p> <p>7 Class 10/class 20 selector</p> <p>8 Selector for balanced load / unbalanced load</p>	<p>LR9D5367 to D5569</p>

Environment

Conforming to standards			IEC 60947-4-1, 255-8, 255-17, VDE 0660 and EN 60947-4-1
Product certifications			UL 508, CSA 22-2
Degree of protection	Conforming to IEC 60529 and VDE 0106		IP 20 on front face with protective covers LA9D11570• or D11560•
Protective treatment	Standard version		"TH"
Ambient air temperature around the device (conforming to IEC 60255-8)	Storage	°C	- 40 to + 85 (- 104 to + 185 °F)
	Normal operation	°C	- 20 to + 55 (1) (- 68 to + 131 °F)
Maximum operating altitude	Without derating	ft/m	6562 (2000)
Operating positions without derating	In relation to normal, vertical mounting plane		Any position
Shock resistance	Permissible acceleration conforming to IEC 60068-2-27		13 gn - 11 ms
Vibration resistance	Permissible acceleration conforming to IEC 60068-2-6		2 gn - 5 to 300 Hz
Dielectric strength at 50 Hz	Conforming to IEC 60255-5	kV	6
Impulse withstand voltage	Conforming to IEC 61000-4-5	kV	6
Resistance to electrostatic discharge	Conforming to IEC 61000-4-2	kV	8
Resistance to radio-frequency conducted disturbances	Conforming to IEC 61000-4-3 and NF C 46-022	V/m	10
Resistance to fast transient currents	Conforming to IEC 61000-4-4	kV	2
Electromagnetic compatibility	Draft EN 50081-1 and 2, EN 50082-2	V	Meets requirements

Electrical characteristics of auxiliary contacts

Conventional thermal current		A	5					
Maximum consumption of operating coils of controlled contactors (Occasional operating cycles of contact 95-96)	ac supply	V	24	48	110	220	380	600
		VA	100	200	400	600	600	600
	dc supply	V	24	48	110	220	440	—
		W	100	100	50	45	25	—
Short-circuit protection ●	By gG, BS or Class CC fuse or by GB2 circuit-breaker	A	5					
Cabling	One or two conductors	AWG (mm²)	Minimum c.s.a.: 16 (1) / maximum c.s.a.: 14 (2.5)					
Flexible cable without cable end	Tightening torque	lb-in (N.m)	11 (1.2)					

- (1) For operation at 70 °C (158 °F), please consult your Regional Sales Office.
- Select short circuit protection to meet the National Electrical Code or other local codes and standards.

TeSys™ D-Line Contactors and Starters LR9D 3-pole Solid-state Overload Relays

Electrical Characteristics of Power Circuit

Relay Type		LR9-D
Tripping Class	Conforming to UL 508, IEC 60947-4-1	10 or 20
Rated Insulation Voltage (Ui)	Conforming to IEC 60947-4-1	1000 V
	Conforming to UL, CSA	600 V
Rated Impulse Withstand Voltage (Uimp)		8 kV
Frequency Limits	Of the operational current	50-60 Hz For other frequencies, consult your Regional Sales Office. (1)
Setting Range	Depending on model	60-150 A
Power Circuit Connections	Width of terminal lug	0.787 in (20 mm)
	Clamping screw	M8
	Tightening torque	lb-ft 13 (18 N•m)

Operating Specifications

Temperature Compensation		-20 to +70 °C (- 68 to + 158 °F)
Tripping Threshold	Conforming to IEC 60947-4-1 Alarm	1.05 ± 0.06 In A
	Tripping	1.12 ± 0.06 In A
Sensitivity to Phase Failure	Conforming to IEC 60947-4-1	Tripping current 4 s ± 20% in the event of phase failure

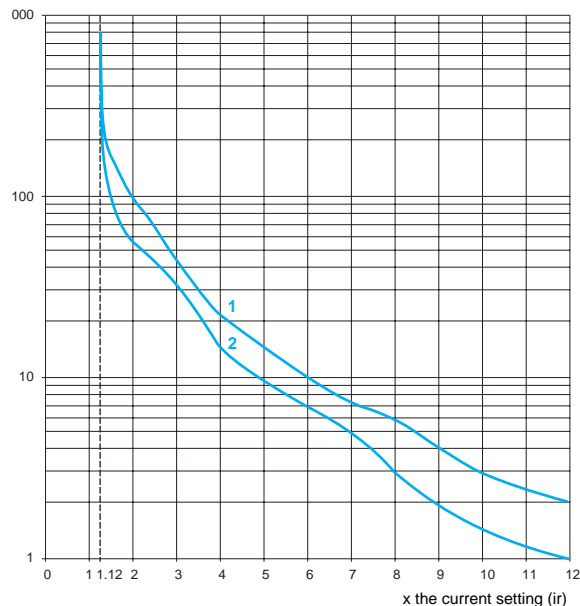
Alarm Circuit Specifications

Rated Supply Voltage	dc supply	24 Vdc
Supply Voltage Limits		17 - 32 V
Current Consumption	No load	less than or equal to 5 mA
Switching Capacity		0 - 150 mA
Protection	Short-circuit and overload	Self-protected
Voltage Drop	Closed state	less than or equal to 2.5 V
Cabling	Flexible cable without cable end	20 - 16 AWG (0.5 - 1.5 mm ²)
Tightening Torque		4.0 lb-in (0.45 N•m)

Tripping Curve LR9-D

Average Operating Time Related to Multiples of the Current Setting

Tripping time in seconds



- 1 Cold state curve.
- 2 Hot state curve.

(1) For use of these relays with soft start units or variable speed controllers, please consult your Regional Sales Office.

Catalog Numbers: pages 135

Dimensions: pages 138

TeSys™ D-Line Contactors and Starters

Selection of 3-pole Class 10 Bimetallic Overload Relays

Differential (Single Phase Sensitive) Thermal Overload Relays

Compensated Relays with Manual or Automatic Reset, with Relay Trip Indicator, for ac or dc.

Short-circuit Protection for North American Applications			By Circuit Breaker	Select in Accordance with NEC and Local Codes
			By Fuses	Maximum 400% of Motor FLA

Relay Setting Range	Fuses to be used with Selected Relay			For use with Contactor LC1-	Catalog Number	Weight lb. (kg)
	aM	gG	BS88			

Class 10 with Connection by Screw Clamp Terminals

Relay Setting Range	aM	gG	BS88	For use with Contactor LC1-	Catalog Number	Weight lb. (kg)
A	A	A	A			
0.10 to 0.16	0.25	2	—	D09 to D38 (2)	LRD01	0.27 (0.124)
0.16 to 0.25	0.5	2	—	D09 to D38 (2)	LRD02	0.27 (0.124)
0.25 to 0.40	1	2	—	D09 to D38 (2)	LRD03	0.27 (0.124)
0.40 to 0.63	1	2	—	D09 to D38 (2)	LRD04	0.27 (0.124)
0.63 to 1	2	4	—	D09 to D38 (2)	LRD05	0.27 (0.124)
1 to 1.6	2	4	6	D09 to D38 (2)	LRD06	0.27 (0.124)
1.6 to 2.5	4	6	10	D09 to D38 (2)	LRD07	0.27 (0.124)
2.5 to 4	6	10	16	D09 to D38 (2)	LRD08	0.27 (0.124)
4 to 6	8	16	16	D09 to D38 (2)	LRD10	0.27 (0.124)
5.5 to 8	12	20	20	D09 to D38 (2)	LRD12	0.27 (0.124)
7 to 10	12	20	20	D09 to D38 (2)	LRD14	0.27 (0.124)
9 to 13	16	25	25	D12 to D38 (2)	LRD16	0.27 (0.124)
12 to 18	20	35	32	D18 to D38 (2)	LRD21	0.27 (0.124)
16 to 24	25	50	50	D25 to D38 (2)	LRD22	0.27 (0.124)
23 to 32	40	63	63	D25 to D38 (2)	LRD32	0.27 (0.124)
30 to 38	50	80	80	D32 and D38 (2)	LRD35	0.27 (0.124)
17 to 25	25	50	50	D40 to D95	LRD3322	1.12 (0.510)
23 to 32	40	63	63	D40 to D95	LRD3353	1.12 (0.510)
30 to 40	40	100	80	D40 to D95	LRD3355	1.12 (0.510)
37 to 50	63	100	100	D40 to D95	LRD3357	1.12 (0.510)
48 to 65	63	100	100	D50 to D95	LRD3359	1.12 (0.510)
55 to 70	80	125	125	D50 to D95	LRD3361	1.12 (0.510)
63 to 80	80	125	125	D65 to D95	LRD3363	1.12 (0.510)
80 to 104	100	160	160	D80 and D95	LRD3365	1.12 (0.510)
80 to 104	125	200	160	D115 and D150	LRD4365	1.98 (0.900)
95 to 120	125	200	200	D115 and D150	LRD4367	1.98 (0.900)
110 to 140	160	250	200	D150	LRD4369	1.98 (0.900)
80 to 104	100	160	160	D115 and D150	LRD33656 (1)	2.20 (1.000)
95 to 120	125	200	200	D115 and D150	LRD33676 (1)	2.20 (1.000)
110 to 140	160	250	200	D115 and D150	LRD33696 (1)	2.20 (1.000)

Class 10 with Spring Terminal Connections (for direct mounting on the contactor only)

Relay Setting Range	aM	gG	BS88	For use with Contactor LC1-	Catalog Number	Weight lb. (kg)
0.10 to 0.16	0.25	2	—	D09 to D38 (2)	LRD013	6.31 (0.140)
0.16 to 0.25	0.5	2	—	D09 to D38 (2)	LRD023	6.31 (0.140)
0.25 to 0.40	1	2	—	D09 to D38 (2)	LRD033	6.31 (0.140)
0.40 to 0.63	1	2	—	D09 to D38 (2)	LRD043	6.31 (0.140)
0.63 to 1	2	4	—	D09 to D38 (2)	LRD053	6.31 (0.140)
1 to 1.6	2	4	6	D09 to D38 (2)	LRD063	6.31 (0.140)
1.6 to 2.5	4	6	10	D09 to D38 (2)	LRD073	6.31 (0.140)
2.5 to 4	6	10	16	D09 to D38 (2)	LRD083	6.31 (0.140)
4 to 6	8	16	16	D09 to D38 (2)	LRD103	6.31 (0.140)
5.5 to 8	12	20	20	D09 to D38 (2)	LRD123	6.31 (0.140)
7 to 10	12	20	20	D09 to D38 (2)	LRD143	6.31 (0.140)
9 to 13	16	25	25	D12 to D38 (2)	LRD163	6.31 (0.140)
12 to 18	20	35	32	D18 to D38 (2)	LRD213	6.31 (0.140)
16 to 24	25	50	50	D25 to D38 (2)	LRD223	6.31 (0.140)

Class 10 with Ring-Tongue Terminals for LRD01 through LRD35 (load side terminals only)

Select the appropriate overload relay with screw clamp terminals from the table above and add 6 to the end of the reference.

Example: LRD01 becomes LRD016.

Thermal Overload Relays for use on single phase loads

Class 10 with connection by screw clamp terminals

Change the prefix in the references above from LRD (except LRD4●●●) to LR3D. Example: LRD01 becomes LR3D01.

Thermal Overload Relays for use on 1000 V Supplies

Class 10 with connection by screw clamp terminals

For relays LRD-01 to LRD-35 only, for an operating voltage of 1000 V, and only for independent mounting, the reference becomes LRD33 A66. Example: LRD12 becomes LRD3312A66.

Order an LA7D3064 terminal block separately; see page 137.

- (1) These are special separate mounted versions of the LRD43 overload relays for the LC1D115 and D150 contactors. Part number includes overload relay, terminal block and 6 connectors (unit is not UL/CSA approved).
- (2) When used with D25-D38 contactors, order spacer clip (part number W816366180111). See page 137.



LRD08



LRD21



LRD33



LRD083

TeSys™ D-Line Contactors and Starters

Selection of 3-pole Class 20 Bimetallic and Class 10 Solid-state Overload Relays

Differential (Single Phase Sensitive) Thermal Overload Relays

Compensated relays with manual or automatic reset, with relay trip indicator, for ac or dc LR2-D1508 to 2553; independent mounting either by ordering a terminal block LA7D1064 or LA7D2064, or by ordering the relay pre-assembled; in this case, add the suffix LA7 to the reference.
Example: LR2D1508 becomes LR2D1508LA7.

Short-circuit Protection for North American Applications				By Circuit Breaker		Select in Accordance with NEC and Local Codes	
				By Fuses		Maximum 400% of Motor FLA	
Relay Setting Range	Fuses to be used with the Selected Relay			For use with Contactor		Catalog Number	Weight lb. (kg)
	aM	gG	BS88	LC1			
A	A	A	A				

Class 20 for Connection by Screw Clamp Terminals

2.5 to 4	6	10	16	D09 to D38 (2)	LRD1508 (3)	0.42 (0.190)
4 to 6	8	16	16	D09 to D38 (2)	LRD1510 (3)	0.42 (0.190)
5.5 to 8	12	20	20	D09 to D38 (2)	LRD1512 (3)	0.42 (0.190)
7 to 10	16	20	25	D09 to D38 (2)	LRD1514 (3)	0.42 (0.190)
9 to 13	16	25	25	D12 to D38 (2)	LRD1516 (3)	0.42 (0.190)
12 to 18	25	35	40	D18 to D38 (2)	LRD1521 (3)	0.42 (0.190)
17 to 25	32	50	50	D25 and D38 (2)	LRD1522 (3)	0.42 (0.190)
23 to 28	40	63	63	D25 and D38 (2)	LRD1530 (3)	0.76 (0.345)
25 to 32	40	63	63	D25 and D38 (2)	LRD1532 (3)	0.76 (0.345)
17 to 25	32	50	50	D40 to D95	LRD3522	1.18 (0.535)
23 to 32	40	63	63	D40 to D95	LR2D3553	1.18 (0.535)
30 to 40	50	100	80	D40 to D95	LR2D3555	1.18 (0.535)
37 to 50	63	100	100	D50 to D95	LR2D3557	1.18 (0.535)
48 to 65	80	125	100	D50 to D95	LR2D3559	1.18 (0.535)
55 to 70	100	125	125	D65 to D95	LR2D3561	1.18 (0.535)
63 to 80	100	160	125	D80 and D95	LR2D3563	1.18 (0.535)



LRD15

Solid-state Differential Thermal Overload Relays

Compensated relays, with relay trip indicator, for ac or dc, for direct mounting on contactor or independent mounting (1).

Relay Setting Range	Fuses to be used with Selected Relay (4)		For Direct Mounting Beneath Contactor LC1	Catalog Number	Weight lb. (kg)
	aM	gG			
A	A	A			

Class 10 for Connection using Bars or Connectors

60 to 100	100	160	D115 and D150	LR9D5367	1.95 (0.885)
90 to 150	160	250	D115 and D150	LR9D5369	1.95 (0.885)

Class 20 for Connection using Bars or Connectors

60 to 100	125	160	D115 and D150	LR9D5567	1.95 (0.885)
90 to 150	200	250	D115 and D150	LR9D5569	1.95 (0.885)

Solid-state Thermal Overload Relays for use with Balanced/Unbalanced Loads (Single Phase)

Compensated relays, with separate outputs for alarm and tripping.

Relay Setting Range	Fuses to be used with Selected Relay (4)		For Direct Mounting Beneath Contactor LC1	Catalog Number	Weight lb. (kg)
	aM	gG			
A	A	A			

Class 10 or 20 Selectable with Connection using Bars or Connectors

60 to 100	100	160	D115 and D150	LR9D67	1.98 (0.900)
90 to 150	160	250	D115 and D150	LR9D69	1.98 (0.900)

- (1) Power terminals can be protected against direct finger contact by the addition of shrouds and/or insulated terminal blocks, to be ordered separately (see page 113).
- (2) For use with D25-D38 contactors, order spacer clip (part number W816366180111). See page 137.
- (3) These overloads are available without single phase sensitivity. To order, change the LRD prefix to LR3D and add A1 to the end of the number.
Example: LRD1508 becomes LR3D1508A1
- (4) Select short circuit protection to meet the National Electrical Code or other local codes and standards.

Other Versions

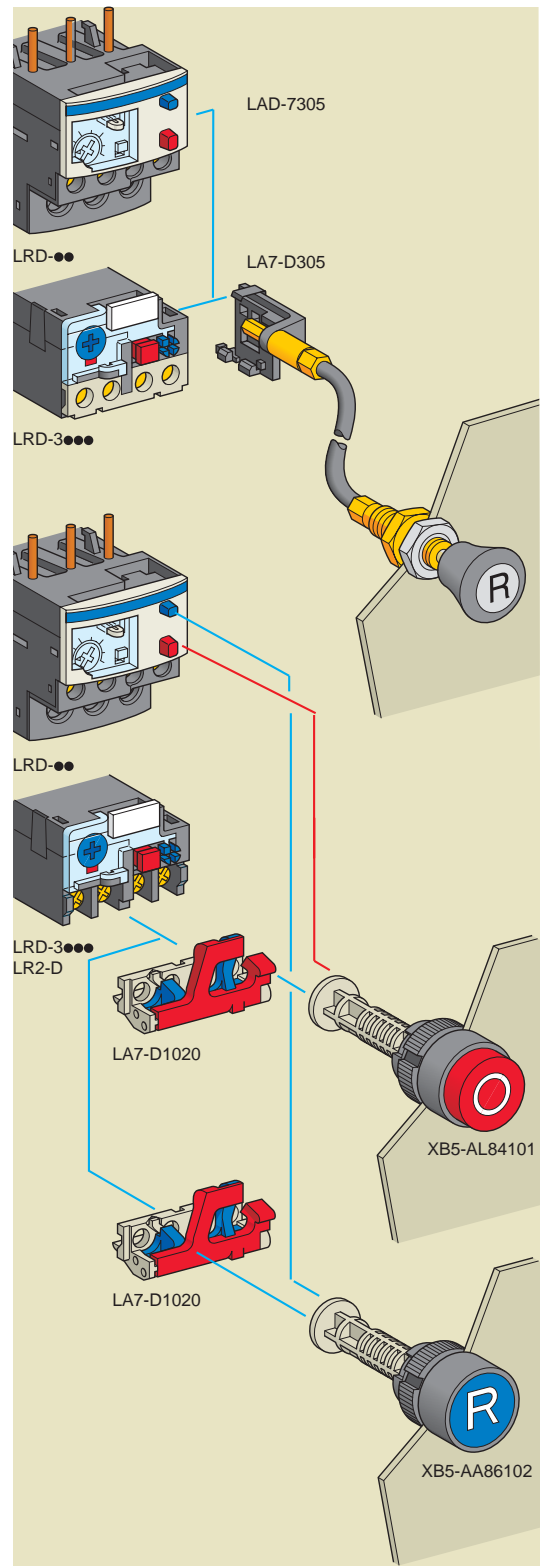
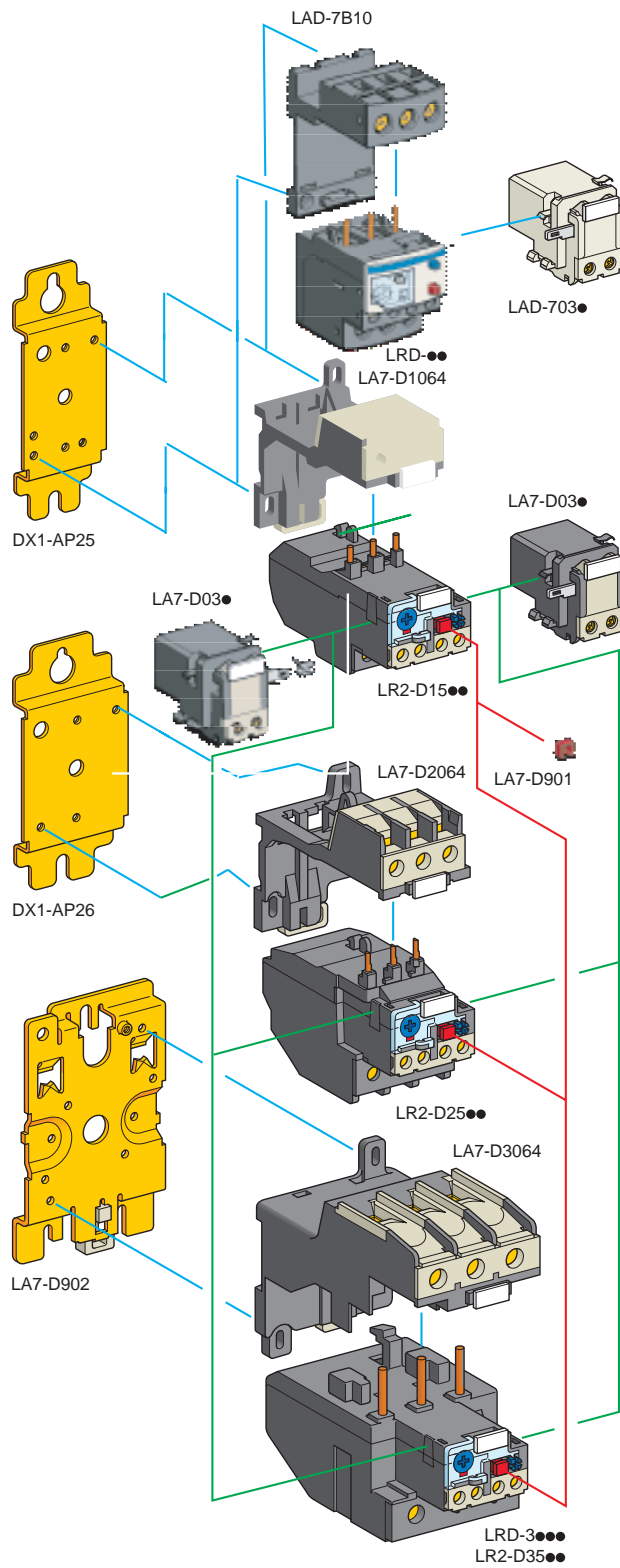
Thermal overload relays for resistive circuits in category AC-1. Please consult your Regional Sales Office.



LR2D35

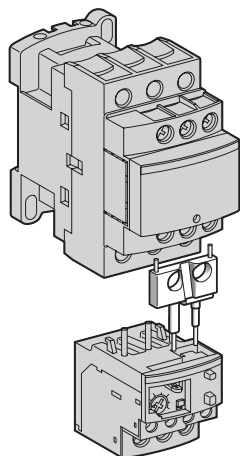
TeSys™ D-Line Contactors and Starters

Selection of Overload Relay Accessories

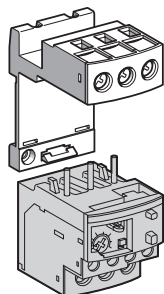


TeSys™ D-Line Contactors and Starters

Selection of Overload Relay Accessories



LAD7C



LAD7B10



Overload Relay and Spacer
(W816366180111)

Accessories (to be ordered separately)

Description	For use on:	Sold in Lots of:	Catalog Number	Weight lb. (kg)
Pre-wiring kit allowing direct connection of the N.C. contact of relay LRD01 to 35 or LR3D01 to D35 to the contactor	LC1D09 to D18	10	LAD7C1	0.002 (0.004)
	LC1D25 to D38	10	LAD7C2	0.003 (0.007)
Separate Mount Kits	LRD01 to 35 and LR3D01 to D35	1	LAD7B10	0.100 (0.22)
Terminal blocks (1) for separate mounting on 35 mm rail (AM1DP200) or screw mounting; for mounting centers, see pages 138 to 140.	LRD15●●	1	LAD7B105	0.100 (0.22)
	LR2D15●●	1	LA7D1064	0.100 (0.22)
	LR2D25●●	1	LA7D2064	0.120 (0.26)
	LRD3●●●, LR3D3●●●, LR2D35●●	1	LA7D3064 (2)	0.370 (0.82)
Terminal block adapter for mounting a relay beneath an LC1D115 or D150 contactor	LRD3●●●, LR3D3●●●, LRD35●●	1	LA7D3058	0.080 (0.18)
Mounting plates (3) for screw mounting on 110 mm center	LRD01 to 35, LR3D01 to D35. LR2D15●●	10	DX1AP25	0.065 (0.14)
	LR2D25●●	10	DX1AP26	0.082 (0.18)
	LRD3●●●, LR3D3●●●, LR2D35●●	1	LA7D902	0.130 (0.29)
Marker holder snap in	All relays except LRD01 to 35 and LR3D01 to D35 (4)	100	LA7D903	0.001 (0.002)
Bag of 400 labels (blank, self-adhesive, 7 x 16 mm)	–	1	LA9D91	0.001 (0.002)
Stop button locking device	All relays except LRD01 to 35. LR3D01 to D35 and LR9D	10	LA7D901	0.005 (0.01)
Remote stop or electrical reset device (5)	LRD01 to 35 and LR3D01 to D35	1	LAD703• (6)	0.090 (0.20)
Remote tripping or electrical reset device (5)	All relays except LRD01 to 35 and LR3D01 to D35	1	LA7D03• (6)	0.090 (0.20)
Block of insulated terminals	LR9D	2	LA9F103	0.560 (1.23)
Spacer	Mounting small overload relays to LC1D25 and LC1D32	10	W816366180111	0.050 (0.023)

Remote Control

"Reset" Function

By flexible cable (length = 0.5 m / 1.64 ft.)	LRD01 to 35 and LR3D01 to D35	1	LAD7305	0.075 (0.17)
	All relays except LRD01 to 35 and LR3D01 to D35	1	LA7D305	0.075 (0.17)

"Stop" and/or "Reset" Functions

The terminal protection shroud must be removed and the following three products must be ordered separately.

Adapter for door interlock mechanism	All relays except LRD01 to 35 and LR3D01 to D35	1	LA7D1020	0.005 (0.01)
Operating head for spring return push button	Stop All relays	1	XB5AL84101	0.027 (0.06)
	Reset All relays	1	XB5AA86102	0.027 (0.06)

- (1) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open, "ready-to-tighten" position.
- (2) To order a terminal block (separate mount kit) with ring-tongue terminals, the catalog number becomes **LA7D30646**.
- (3) Requires separate mount terminal block corresponding to the type of relay.
- (4) For LRD01 to 35 (see page 114).
- (5) The time for which the coil of remote tripping or electrical resetting device **LA7D03** or **LAD703** can remain energized depends on its rest time: 1 s pulse duration with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time; maximum pulse duration of 20 s with a rest time of 300 s. Minimum pulse time: 200 ms.
- (6) Reference to be completed by adding the code indicating control circuit voltage. Standard control circuit voltages (for other voltages, please consult your Regional Sales Office).

Volts	12	24	48	96	110	220/230	380/400	415/440
50/60 Hz	–	B	E	–	F	M	Q	N
Consumption, inrush and sealed: < 100 VA								
dc	J	B	E	DD	F	M	–	–

Consumption, inrush and sealed: < 100 W.

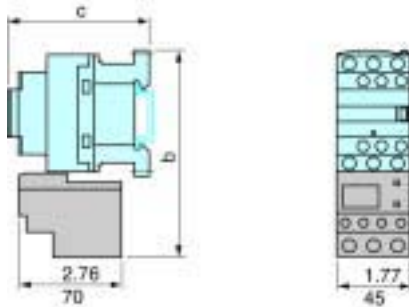
TeSys™ D-Line Contactors and Starters

Dimensions for 3-pole Bi-metallic and Solid-state Overload Relays

D-Line Thermal Overload Relays

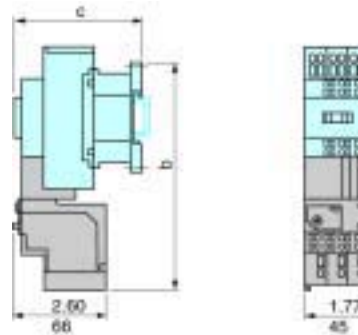
LRD-01-35

Direct mounting beneath contactors with screw



LRD-013-353

Direct mounting beneath contactors with spring terminal connections

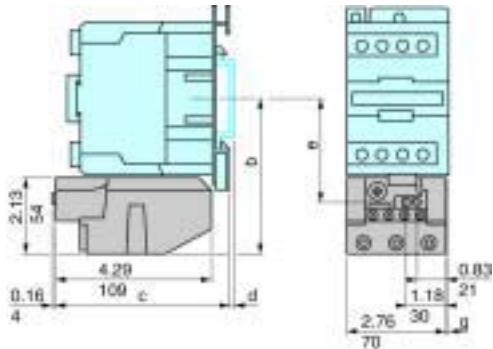


Dual Dimensions: Inches
mm

LC1•	D09 - D18	D25 - D38	LC1•	D093 - 383
b	4.84 (123)	5.39 (137)	b	4.84 (123)
c	See pages 122, 123.		c	See pages 122, 123.

LRD-3•••

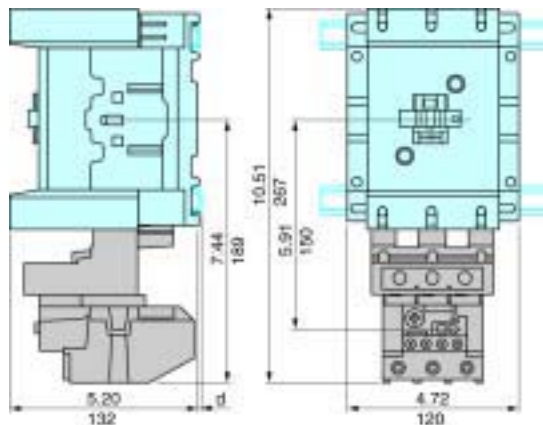
Direct mounting beneath contactors
LC1-D40 to D95 and LP1-D40 to D80



AM1•	DL201	DL200					
d	0.28 (7)	0.67 (17)	b	c	e	g(3P)	g(4P)
ac control circuit:							
LC1D40	4.37 (111)	4.69 (119)	2.85 (72.4)	0.18 (4.5)	0.51 (13)		
LC1D50	4.37 (111)	4.69 (119)	2.85 (72.4)	0.18 (4.5)	-		
LC1D65	4.37 (111)	4.69 (119)	2.85 (72.4)	0.18 (4.5)	0.51 (13)		
LC1D80	4.55 (115.5)	4.88 (124)	3.03 (76.9)	0.37 (9.5)	0.87 (22)		
LC1D95	4.55 (115.5)	4.88 (124)	3.03 (76.9)	0.37 (9.5)	-		
dc control circuit:							
LC1D40, LP1D40	4.37 (111)	6.93 (176)	2.85 (72.4)	0.18 (4.5)	0.51(13)		
LC1D50	4.37 (111)	6.93 (176)	2.85 (72.4)	0.18 (4.5)	-		
LC1D65, LP1D65	4.37 (111)	6.93 (176)	2.85 (72.4)	0.18 (4.5)	0.51(13)		
LC1D80, D95, LP1D80	4.55 (115.5)	7.06 (179.4)	3.03 (76.9)	0.37 (9.5)	0.87(22)		

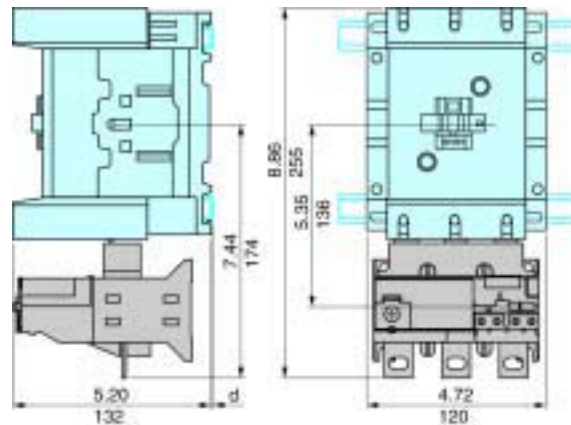
LRD4•••

Direct mounting beneath contactors
LC1D115 and D150



LR9D

Direct mounting beneath contactors
LC1D115 and D150



AM1DL200 and DR200	AM1DE200 and ED•••	AM1DP200 and DR200	AM1DE200 and ED•••
d	0.10 (2.5)	d	0.10 (2.5)
Characteristics: pages 130 - 133		Catalog Number: pages 134, 135	

TeSys™ D-Line Contactors and Starters

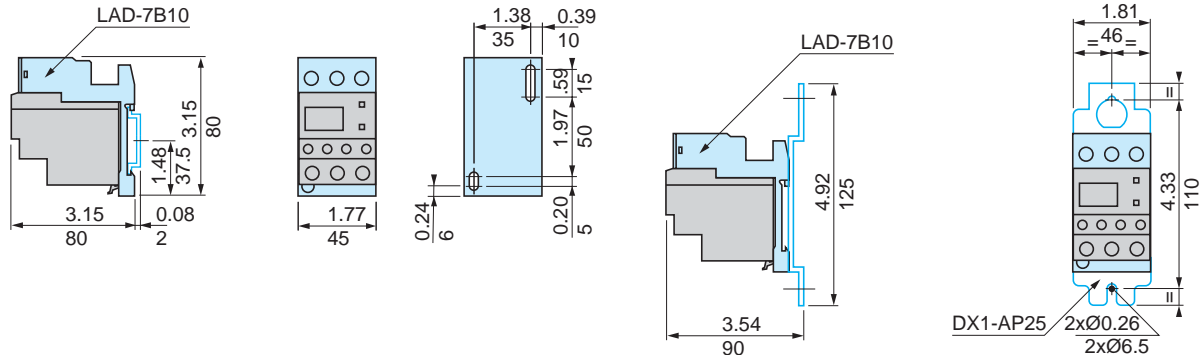
Mounting Information for Bimetallic and Solid-state Overload Relays

D-Line Thermal Overload Relays

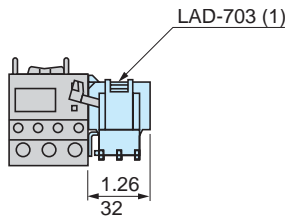
LRD-01-35

Independent mounting on 50 mm centers or on rail AM1DP200 or DE200

Independent mounting on 110 mm centers



Remote tripping or electrical reset



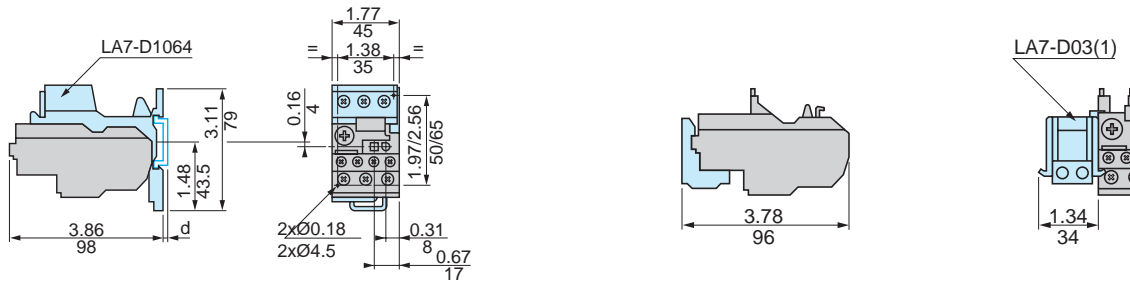
Dual Dimensions: Inches
mm

(1) Can only be mounted on RH side of relay LRD-01 to 35

LRD15**

Independent mounting on 50 mm centers or on rail AM1DP200 or DE200

Remote tripping or electrical reset



AM1DP200 **AM1DE200**

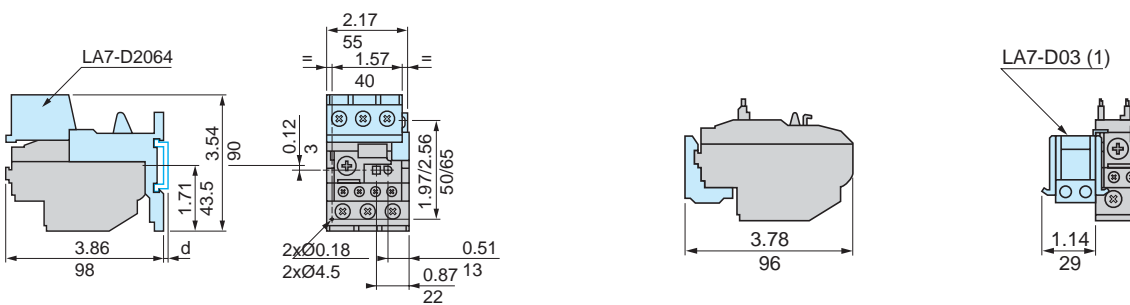
d 0.08 (2) 0.37 (9.5)

(1) Can be mounted on RH or LH side of relay LR2D15**

LR2D25**

Independent mounting on 50 mm centers or on rail AM1DP200 or DE200

Remote tripping or electrical reset



AM1DP200 **AM1DE200**

d 0.08 (2) 0.37 (9.5)

(1) Can be mounted on RH or LH side of relay LR2D25**

Characteristics: pages 130 - 133 Catalog Number: pages 134, 135

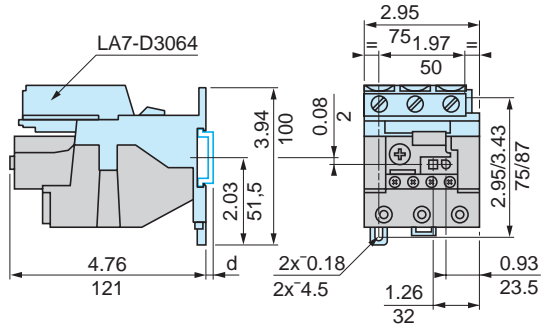
TeSys™ D-Line Contactors and Starters

Mounting Information for Bimetallic and Solid-state Overload Relays

D-Line Thermal Overload Relays

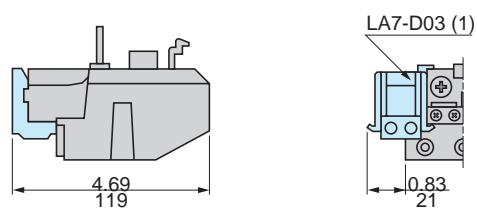
LRD3*** and LR2D35**

Independent mounting on 50 mm centers or on rail AM1DP200 or DE200



LRD3***, LR2D35** and LR9D

Remote tripping or electrical reset



AM1DP200

AM1DE200

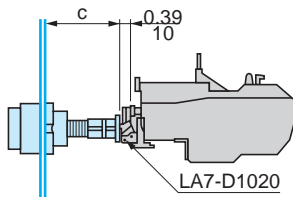
d 0.08 (2)

0.37 (9.5)

(1) Can be mounted on RH or LH side of relay LR23***, LR2D35** or LR9D

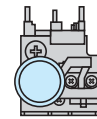
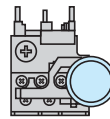
LR2D and LRD3***

Adapter for door interlock mechanism LA7D1020



Stop

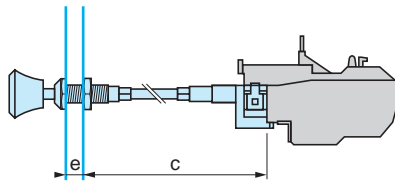
Reset



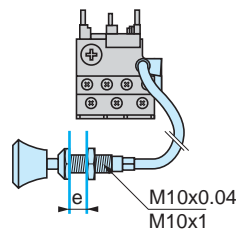
c: adjustable from 0.67 to 4.72 in. (17 to 120 mm)

LRD, LR2D and LR9D

"Reset" by flexible cable LA7D305 and LAD7305
Mounting with cable straight



Mounting with cable bent



c: up to 21.6in (550 mm)

e: up to 0.79in (20 mm)

e: up to 79in (20 mm)

Characteristics: pages 130 - 133

Catalog Number: pages 134, 135

TeSys™ D-Line Contactors and Starters

Capacitor-switching Contactors (International Applications Only)

For Switching 3-phase Capacitor Banks used for Power Factor Correction - Selection

Standard Contactors

Capacitors, together with the circuits to which they are connected, form oscillatory circuits which can, at the moment of switch-on, give rise to high transient currents (> 180 In) at high frequencies (1 to 15 kHz).

As a general rule, the peak current on energizing is lower when:

- the mains inductances are high,
- the line transformer ratings are low,
- the transformer short-circuit voltage is high,
- the ratio between the sum of the ratings of the capacitors already switched into the circuit and that of the capacitors to be switched in is small (for multiple step capacitor banks).

In accordance with standards IEC 60070, NF C 54-100, VDE 0560, the switching contactor must be able to withstand a continuous current of 1.43 times the rated current of the capacitor bank step being switched.

The rated operational powers given in the tables opposite take this overload into account.

Short-circuit protection is normally provided by gL type HPC fuses rated at 1.7 to 2 In.

Contactor Applications

Operating Conditions

Capacitors are directly switched. **The values of peak current at switch-on must not exceed the values indicated opposite.**

An inductor may be inserted in each of the three phases supplying the capacitors to reduce the peak current, if necessary. Inductance values are determined according to the selected operating temperature.

Power factor correction by a single-step capacitor bank

The use of a choke inductor is unnecessary; the inductance of the mains supply is adequate to limit the peak to a value compatible with the contactor characteristics.

Power factor correction by a multiple-step capacitor bank

Select a special contactor as defined on page 142.

If a standard contactor is used, it is essential to insert a choke inductor in each of the three phases of each step.

Maximum operational power of contactors

Standard Contactors

Maximum operating rate: 120 operating cycles/hour.
Electrical durability at maximum load: 100,000 operating cycles.
With choke inductors connected, where necessary.

Operational power at 50/60 Hz						Maximum Peak Current	Contactor Size
$\theta \leq 40 \text{ }^\circ\text{C} / 104 \text{ }^\circ\text{F} \text{ (1)}$			$\theta \leq 55 \text{ }^\circ\text{C} / 131 \text{ }^\circ\text{F} \text{ (1)}$				
220 V	400 V	600 V	220 V	400 V	600 V		
240 V	440 V	690 V	240 V	440 V	690 V	A	
kVAR	kVAR	kVAR	kVAR	kVAR	kVAR		
6	11	15	6	11	15	560	LC1D09, D12
9	15	20	9	15	20	850	LC1D18
11	20	25	11	20	25	1600	LC1D25
14	25	30	14	25	30	1900	LC1D32, D38
17	30	37	17	30	37	2160	LC1D40
22	40	50	22	40	50	2160	LC1D50
22	40	50	22	40	50	3040	LC1D65
35	60	75	35	60	75	3040	LC1D80, D95
50	90	125	38	75	80	3100	LC1D115
60	110	135	40	85	90	3300	LC1D150
70	125	160	50	100	100	3500	LC1F185
80	140	190	60	110	110	4000	LC1F225
90	160	225	75	125	125	5000	LC1F265
100	190	275	85	140	165	6500	LC1F330
125	220	300	100	160	200	8000	LC1F400
180	300	400	125	220	300	10 000	LC1F500
250	400	600	190	350	500	12 000	LC1F630
250	400	600	190	350	500	14 200	LC1F800

(1) Upper limit of temperature category conforming to IEC 70.

TeSys™ D-Line Contactors and Starters

Capacitor-switching Contactors (International Applications Only)

For Switching 3-phase Capacitor Banks, used for Power Factor Correction
Direct Connection without Choke Inductors - References



LC1DFK11..



LC1DPK12..

Special Contactors

Special contactors **LC1D•K** are designed for switching 3-phase, single or multiple-step capacitor banks; they conform to standards IEC 60070 and 60831, NFC 54-100, VDE 0560, UL and CSA.

Contactors Applications

Specification

Contactors fitted with a block of early make poles and damping resistors, limiting the value of the current on closing to 60 In max. This current limitation increases the life of all the components of the installation, in particular that of the fuses and capacitors. The patented design of the add-on block (No. 90 119-20) ensures safety and long life of the installation.

Operating Conditions

There is no need to use choke inductors for either single or multiple-step capacitor banks.
Short-circuit protection must be provided by gl type fuses rated at 1.7 to 2 In.

Maximum Operational Power

The power values given in the selection table below are for the following operating conditions.

Prospective Peak Current at Switch-on	LC1D•K				200 In		
Maximum Operating Rate	LC1DFK, DGK, DLK, DMK, DPK				240 operating cycles/hour		
	LC1DTK, DWK				100 operating cycles/hour		
Electrical Durability at Nominal Load	All Contactor Ratings		400 V		300,000 operating cycles		
			690 V		200,000 operating cycles		
Operational Power at 50/60 Hz (1)			Instantaneous Auxiliary Contacts	Tightening Torque on Cable End	Basic Reference. Complete with Code Indicating Control Circuit Voltage (2)	Weight lb. (kg)	
$\theta \leq 55\text{ }^{\circ}\text{C} / 131\text{ }^{\circ}\text{F} (3)$							
220 V	400 V	660 V					
240 V	440 V	690 V					
kVAR	kVAR	kVAR	N.O.	N.C.	lb-in (N.m)		
6.7	12.5	18	1	1	11 (1.2)	LC1DFK11..	0.94 (0.430)
			–	2	11 (1.2)	LC1DFK02..	0.94 (0.430)
8.5	16.7	24	1	1	15 (1.7)	LC1DGK11..	0.99 (0.450)
			–	2	15 (1.7)	LC1DGK02..	0.99 (0.450)
10	20	30	1	1	17 (1.9)	LC1DLK11..	1.3 (0.600)
			–	2	17 (1.9)	LC1DLK02..	1.3 (0.600)
15	25	36	1	1	22 (2.5)	LC1DMK11..	1.4 (0.630)
			–	2	22 (2.5)	LC1DMK02..	1.4 (0.630)
20	33.3	48	1	2	44 (5)	LC1DPK12..	2.9 (1.300)
25	40	58	1	2	44 (5)	LC1DTK12..	2.9 (1.300)
40	60	92	1	2	80 (9)	LC1DWK12..	3.6 (1.650)

Switching of multiple step capacitor banks (with equal or different power ratings).

The correct contactor for each step is selected from the above table, according to the power rating of the step to be switched.

Example: 50 kVAR 3-step capacitor bank. Temperature 50 °C (122 °F) and U = 400 V or 440 V.

One 25 kVAR step: contactor LC1-DMK, one 15 kVAR step: contactor LC1-DGK and one 10 kVAR step: contactor LC1-DFK.

(1) Operational power of the contactor according to the schematic on page 143.

(2) Standard control circuit voltages.

Volts	24	42	48	110	115	220	230	240	380	400	415	440
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7

For other voltages between 24 and 440 V, please consult your Regional Sales Office

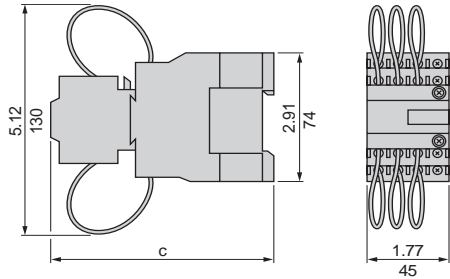
(3) The average temperature over a 24-hour period, in accordance with standards IEC 60070 and 60831, is 45 °C (113 °F).

TeSys™ D-Line Contactors and Starters Capacitor-switching Contactors (International Applications Only)

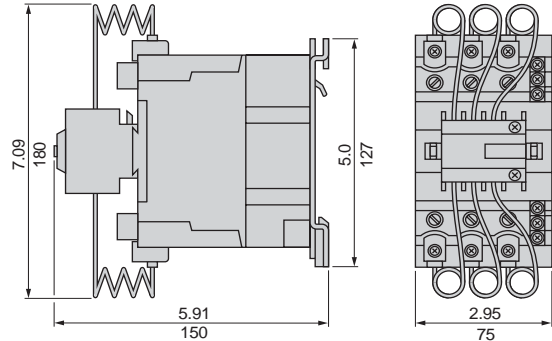
For Switching 3-phase Capacitor Banks, used for Power Factor Correction
Dimensions, Schematics - References

Dimensions

LC1DFK, DGK



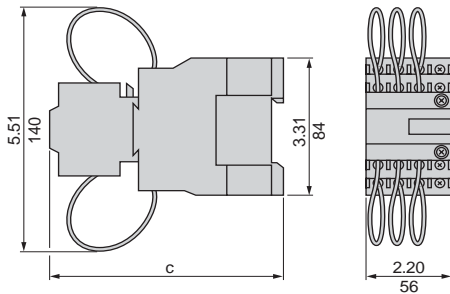
LC1DPK, DTK



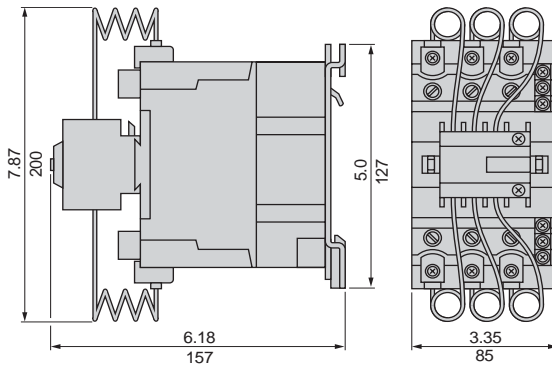
LC1	c	Type of Mounting
DFK	117	LC1D12 See pages 124, 125
DGK	122	LC1D18 See pages 124, 125

LC1	Type of Mounting
DPK	LC1D40 See pages 124, 125
DTK	LC1D50 See pages 124, 125

LC1DLK, DMK



LC1DWK

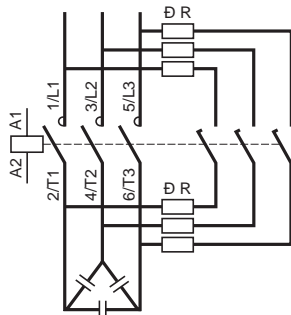


LC1	c	Type of Mounting
DLK	117	LC1D25 See pages 124, 125
DMK	122	LC1D32 See pages 124, 125

LC1	Type of Mounting
DWK	LC1D80 See pages 124, 125

Schematics

LC1D•K



Cabling (maximum permissible c.s.a.)

R = Pre-wired resistor connections

Contactor type LC1	DFK		DGK		DLK		DMK		DPK, DTK		DWK	
Number of conductors	1	2	1	2	1	2	1	2	1	2	1	2
Flexible cable with cable end AWG (mm ²)	14 (2.5)	16 (1.5)	12 (4)	14 (2.5)	12 (4)	12 (4)	10 (6)	12 (4)	6 (16)	10 (6)	1 (50)	4 (25)
Solid cable without cable end AWG (mm ²)	12 (4)	12 (4)	10 (6)	10 (6)	8 (10)	10 (6)	6 (16)	8 (10)	4 (25)	6 (16)	1 (50)	2 (35)

TeSys™ D-Line Contactors and Starters

Plate-mounted Starters LC4D (International Applications Only)



LC4D09A**

AC D.O.L. Starters, Plate Mounted, for Motor Control 4 to 37 kW, (1), with Isolating Device, Pre-Assembled - References

Utilization Category ac-3						Operational Current	Fuses to be Fitted by the Customer		Basic Reference. Complete with Code Indicating Control Circuit Voltage (2)	Weight lb (kg)
Standard Power Ratings of 3-phase Motors 50/60 Hz							440 V up to	Size		
220 V	380 V				660 V					
230 V	400 V	415 V	440 V	500 V	690 V					
kW	kW	kW	kW	kW	kW	A		A		
2.2	4	4	4	5.5	–	9	10 x 38	12	LC4D09A**	1.9 (0.870)
3	5.5	5.5	5.5	7.5	–	12	10 x 38	16	LC4D12A**	1.9 (0.870)
4	7.5	9	9	10	–	18	10 x 38	20	LC4D18A**	2.5 (1.150)
5.5	11	11	11	15	–	25	10 x 38	25	LC4D25A**	3.5 (1.580)
7.5	15	15	15	18.5	18.5	32	14 x 51	32	LC4D32A**	5.8 (2.630)
11	18.5	22	22	22	30	40	14 x 51	40	LC4D40**	6.5 (2.930)
15	22	25	30	30	33	50	22 x 58	63	LC4D50**	7.0 (3.200)
18.5	30	37	37	37	37	65	22 x 58	80	LC4D65**	7.4 (3.340)
22	37	45	45	55	45	80	22 x 58	80	LC4D80**	8.0 (3.650)

Specifications

Pre-wired power and control circuit connections.

3-pole isolating device

- (1) Thermal overload relay to be ordered separately (see pages 134, 135).
- (2) Standard control circuit voltages.

Volts	24	42	48	110	220	230	240	380	400	415	440
50/60 Hz	B7	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7

For other voltages, please consult your Regional Sales Office.

TeSys™ D-Line Contactors and Starters

Plate-mounted Starters LC4D (International Applications Only)

D.O.L. Starters, Plate Mounted, for Motor Control
4 to 37 kW, with Isolating Device, Pre-assembled - Dimensions, Schematics

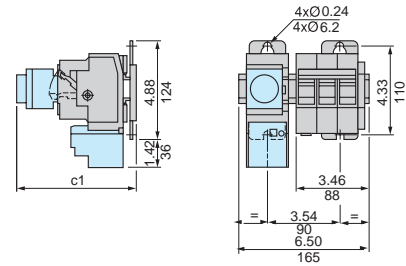
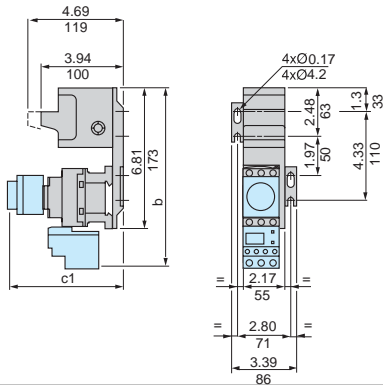
Dimensions

D.O.L. Starters

Plate Mounted, Pre-assembled

LC4D09 to D25A

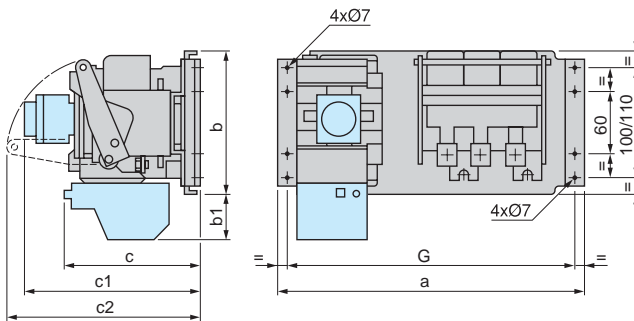
LC4D32A



LC4	D09A to D18A	D25A
b	8.58 (218)	8.70 (221)
c1 without cover or add-on blocks	3.70 (94)	3.93 (100)
with cover, without add-on block	3.77 (96)	4.01 (102)
with LADN or C (two or four contacts)	5.0 (127)	5.23 (133)
with LA6DK10	5.47 (139)	5.70 (145)
with LADT, R, S	5.78 (147)	6.02 (153)
with LADT, R, S and sealing cover	5.94 (151)	6.18 (157)

LC4	D32A
c1 without cover or add-on blocks	8.70 (221)
with cover, without add-on block	4.01 (102)
with LADN or C (two or four contacts)	5.23 (133)
with LA6DK10	5.70 (145)
with LADT, R, S	6.02 (153)
with LADT, R, S and sealing cover	6.18 (157)

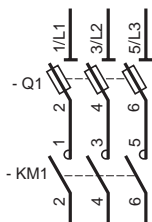
LC4-D40 to D80



LC4	D40 to D65	D80
a	11.0 (281)	12.2 (311)
b	5.6 (143)	5.6 (143)
c	5.1 (130)	5.5 (140)
c1 without cover or add-on blocks	4.8 (124)	5.3 (135)
with cover, without add-on block	5.2 (129)	5.5 (140)
with LA1-DN (one contact)	6.1 (149)	6.3 (160)
with LAD-N or C (two or four contacts)	6.4 (157)	6.6 (168)
with LA6-DK	6.6 (169)	7.0 (180)
with LAD-T, R, S	6.9 (177)	7.4 (188)
with LAD-T, R, S and sealing cover	7.12 (181)	7.5 (192)
c2	3.9 (100)	7.0 (178)

D.O.L. Starters

LC4-D09A to D80



TeSys™ D-Line Contactors and Starters

AC Wye-delta Starters LC3D (International Applications Only)

5.5 to 132 kW, (1), without Isolating Device, Pre-assembled - References

NOTE: Wiring methods differ from typical North American practice.
Contains UL listed, CSA certified, CE marked components.
Assemblies are not UL Listed or CSA Certified.



LC3D32A●●

Standard Power Ratings of Squirrel Cage Motors				Auxiliary Contacts Available on Each Contactor			Star Delta Mechanical Interlock	Catalog Number	Weigh lb. (kg)
				line	delta	star			
Line Voltage - Delta Connection				KM2	KM3	KM1			
220/230 V	380/400 V	415 V	440 V						
kW	kW	kW	kW						

Plate Mounted

Maximum Operating Rate: 30 starts/hour. Maximum starting time: 30 seconds.

Line Voltage (V)	220/230 V	380/400 V	415 V	440 V	Line	Delta	Star	Auxiliary	Interlock	Code	Weight (kg)	
4	7.5	7.5	7.5	-	-	-	-(3)	-	1	With	LC3D09A●●	3.4 (1.530)
5.5	11	11	11	-	-	-	-(3)	-	1	With	LC3D12A●●	3.4 (1.530)
11	18.5	22	22	-	-	-	-(3)	-	1	With	LC3D18A●●	3.8 (1.730)
15	25	30	30	-	-	-	-(3)	-	1	With	LC3D32A●●	4.5 (2.030)
18.5	37	37	37	-	1	1	-(3)	-	1	Without	LC3D40●●	9.6 (4.360)
										With	LC3D40●●A64	9.9 (4.500)
30	55	59	59	-	1	1	-(3)	-	-(3)	Without	LC3D50●●	9.6 (4.360)
										With	LC3D50●●A64	9.9 (4.500)
37	75	75	75	-	1	1	-(3)	-	-(3)	Without	LC3D80●●	11.5 (5.200)
										With	LC3D80●●A64	12.0 (5.400)
63	110	110	110	-	1	1	-(3)	-	-(3)	Without	LC3D115●● (4)	26.0 (11.800)
										With	LC3D115●●A64 (4)	26.7 (12.100)
75	132	132	147	-	1	1	-(3)	-	1 (3)	Without	LC3D150●● (4)	26.7 (12.100)
										With	LC3D150●●A64 (4)	26.7 (12.100)

Rail Mounted (35 mm DIN rail)

Maximum Operating Rate: 12 starts/hour. Maximum starting time: 30 seconds.

Line Voltage (V)	220/230 V	380/400 V	415 V	440 V	Line	Delta	Star	Auxiliary	Interlock	Code	Weight (kg)	
3	5.5	5.5	5.5	-	-	-	-	-	1	With	LC3K06●●	1.6 (0.740)
4	7.5	7.5	7.5	-	-	-	-	-	1	With	LC3K09●●	1.6 (0.740)
Maximum operating rate: 30 starts/hour. Maximum starting time: 30 seconds.												
4	7.5	7.5	7.5	-	-	-	-(3)	-	1	With	LC3D090A●●	3.4 (1.530)
5.5	11	11	11	-	-	-	-(3)	-	1	With	LC3D120A●●	3.4 (1.530)
11	18.5	22	22	-	-	-	-(3)	-	1	With	LC3D180A●●	3.8 (1.730)
15	25	30	30	-	-	-	-(3)	-	1	With	LC3D320A●●	4.5 (2.030)

- (1) Protection must be provided by the addition of an overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current (see pages 134 and 135).
- (2) Standard control circuit voltages

Volts ac 50/60 Hz	24	36	42	48	110	220	230	240	380	400	415	440
Wye-delta Starters LC3K06 and K09												
Code	B7	C7	D7	E7	F7	M7	P7	U7	-	V7	N7	R7
Wye-delta starters LC3D09A to D150, LC3D090A to D320A												
Code	B7	-	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7

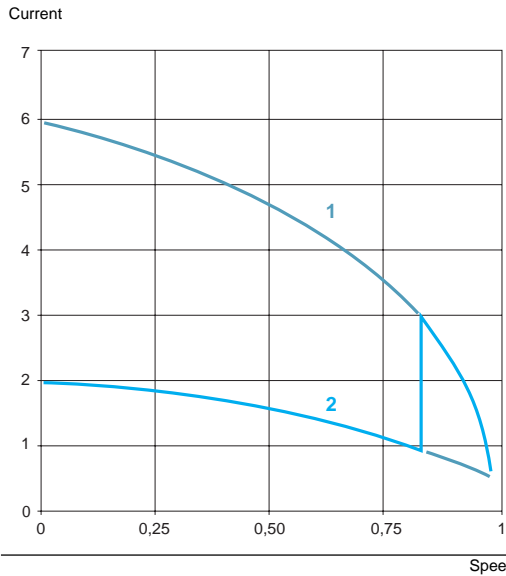
For other voltages, please consult your Regional Sales Office.

- (3) One auxiliary contact block type LADN can also be installed, see page 107.
- (4) These starters consist of contactors LC1D115 or D150 without connectors.

TeSys™ D-Line Contactors and Starters

AC Wye-delta Starters LC3D (International Applications Only)

Wye-delta Starting



This method of starting is applicable to motors on which all six stator terminals are accessible and whose delta connection voltage corresponds to the mains voltage.

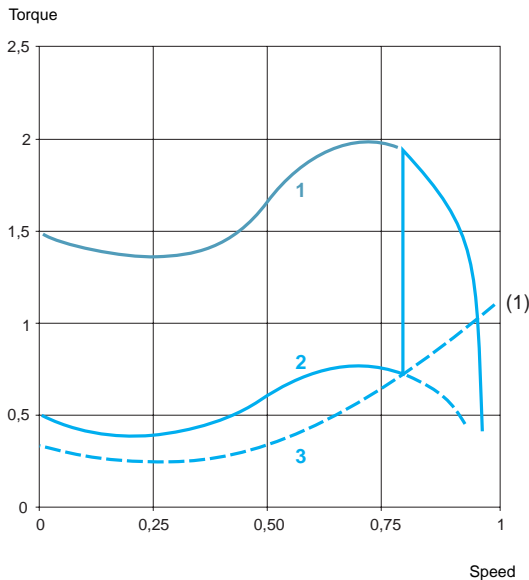
Wye-delta starting should be used for motors starting on no-load or having a low load torque and gradual build-up: the starting torque in star connection is reduced to one third of the direct starting torque, i.e. about 50% of the rated torque; the starting current in star connection is about 1.8 to 2.6 times the rated current.

The transition from wye to delta connection must occur when the machine has run up to speed. A too rapid build-up in load torque would cause the stabilized run-up speed to be too low and would therefore eliminate any advantage in this method of starting: this is the case with certain machines whose load torque depends on the machine speed (a characteristic of centrifugal machines, for example).

All wye-delta starters are supplied with a special LA2DS2 or LA2KT2● time delay relay which imposes a delay on the delta contactor during the transition period in order to allow the star contactor sufficient breaking time.

For ratings D115 and D150, this function is performed by a time delay auxiliary contact block LA2DT2 and a control relay.

1 Starting in direct delta connection
2 Starting in wye connection

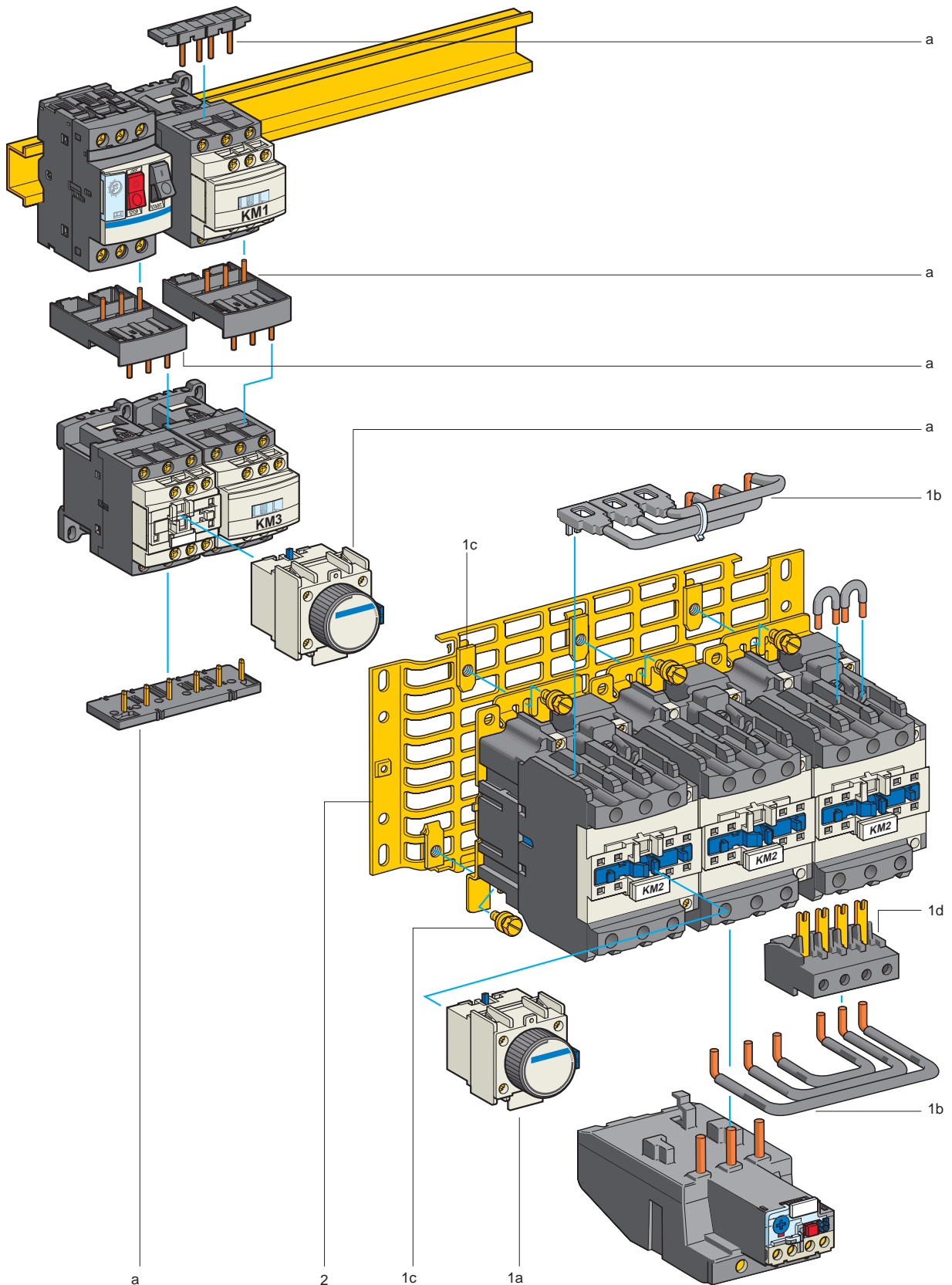


1 Starting in direct delta connection
2 Starting in star connection
3 Machine resistive torque

(1) Motor manufacturers generally specify machine load torques.
Example: maximum resistive torque on completion of star-delta start (expressed as a proportion of the rated torque).

TeSys™ D-Line Contactors and Starters

AC Wye-delta Starter Kits (International Applications Only)



TeSys™ D-Line Contactors and Starters

AC Wye-delta Starter Kits (International Applications Only)

Wye-delta Starters, for Motor Control, 7.5 to 132 kW (1), without Mechanical Interlock, for Customer Assembly (on plate or on mounting rail) (2) - References

Starters for Direct Combination with Circuit-breaker

Maximum Operating Rate: 30 starts/hour. Maximum starting time: 30 seconds					
Standard Power Ratings of Squirrel Cage Motors (3) Mains Voltage-delta		Motor Thermal-magnetic MCB	Catalog Number Complete with Code Indicating Control Circuit Voltage (4)		
400/415 V kW	440 V kW		line KM2	delta KM3	star KM1
7.5	7.5	GV2ME20	LC1D09**	LC1D09**	LC1D09**
–	9	GV2ME20	LC1D12**	LC1D12**	LC1D09**
9	11	GV2ME21	LC1D12**	LC1D12**	LC1D09**
11	–	GV2ME22	LC1D18**	LC1D18**	LC1D09**
15	15	GV2ME32	LC1D18**	LC1D18**	LC1D09**

Separate Parts

Description	Illustration Item No.	Catalog Number	Weight lb. (kg)
Mounting Kit comprising: Power circuit connections and 1 time delay contact block LADS2	a	LAD912GV	0.29 (0.130)

Starters for Mounting Separately from Upstream Protection

Maximum Operating Rate : 30 starts/hour. Maximum starting time: 30 seconds							
Standard power ratings of squirrel cage motors (3) Mains voltage-delta				Contactors (basic references to be completed with code indicating the voltage) (4)			Separate Parts (see below)
220/230 V kW	380/400 V kW	415 V kW	440 V kW	line KM2	delta KM3	star KM1	Component Type
4	7.5	7.5	7.5	LC1D09**	LC1D09**	LC1D09**	D09
5.5	11	11	11	LC1D12**	LC1D12**	LC1D09**	D12
11	18.5	22	22	LC1D18**	LC1D18**	LC1D09**	D18
15	25	30	30	LC1D32**	LC1D32**	LC1D18**	D32
18.5	37	37	37	LC1D40**	LC1D40**	LC1D40**	D40
30	55	59	59	LC1D50**	LC1D50**	LC1D40**	D50
37	75	75	75	LC1D80**	LC1D80**	LC1D50**	D80
63	110	110	110	LC1D115**	LC1D115**	LC1D80**	D115
75	132	132	147	LC1D150**	LC1D150**	LC1D115**	D150

Separate Parts

Description	Illustration Item No.	For use on	Catalog Number	Weight lb. (kg)
Mounting Kit comprising: - 1 time delay contact block LADS2 (D09 to D80) (3) - power circuit connections (D09 to D80) - screws and clamps for attaching contactors to the plate (D40 to D80) - terminal block (D09 to D32)	1 a 1 b 1 c 1 d	D09 to D18	LAD91217	0.40 (0.180)
		D32	LAD93217	0.65 (0.310)
		D40	LA9D4017	0.83 (0.380)
		D50	LA9D5017	1.06 (0.480)
		D80	LA9D8017	1.5 (0.680)
		Equipment Mounting Plate	2	D09, D12, D18
		D32	LA9D32974	0.40 (0.180)
		D40 and D50	LA9D40973	0.66 (0.300)
		D80	LA9D80973	0.66 (0.300)

- (1) Protection must be provided by the addition of a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the rated motor current, see pages 134 and 135.
- (2) For mounting, assembly and cabling: refer to installation instructions supplied with the equipment.
- (3) See comments on page 147.
- (4) See page 115.

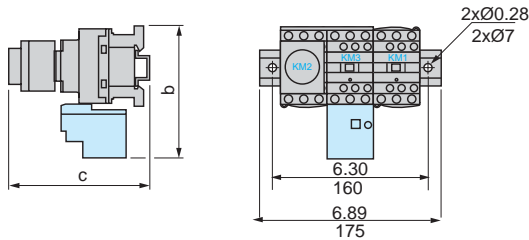
TeSys™ D-Line Contactors and Starters

AC Wye-delta Starter Kits (International Applications Only)

Wye-delta Starters - Dimensions, Schematics

Dimensions for Wye-delta Starters

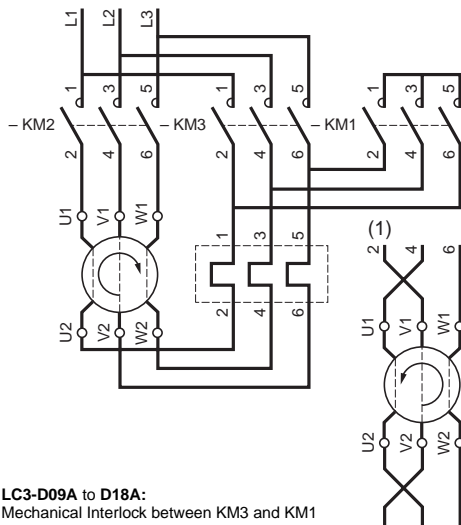
On mounting rail AM1-DP, pre-assembled
LC3-D090A to D320A



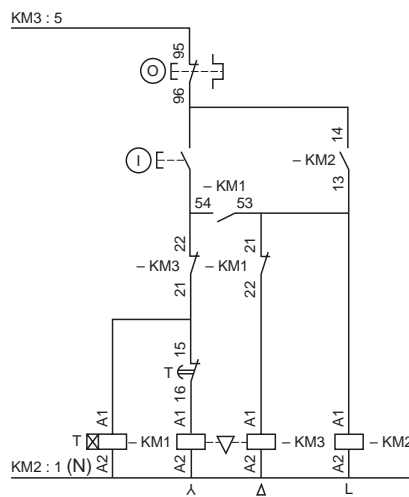
LC3	D090A to D180A	D320A
b	6.0 (153)	5.6 (137)
c	with LAD-S	5.9 (145)
	with LAD-S and sealing cover	5.8 (143)

Schematics

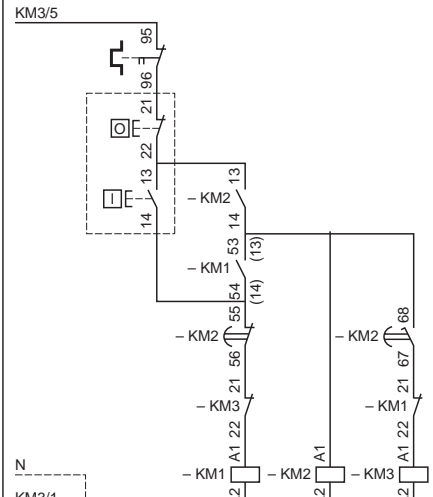
LC3-K, LC3-D09A to D80 / LC3D090A to D320A



LC3-K



LC3-D

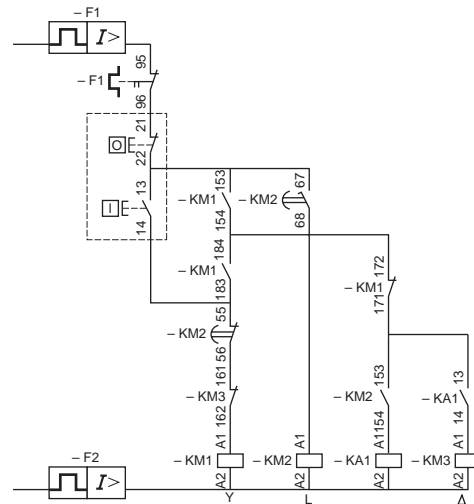
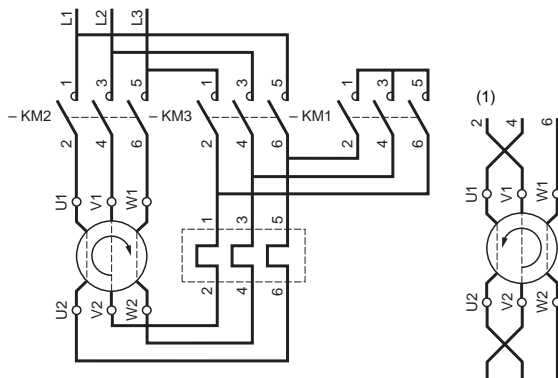


For LC3D50, D80

LC3-D09A to D18A:
Mechanical Interlock between KM3 and KM1

(1) Recommended cabling for reversal of motor rotation (Standard motor, viewed from shaft end)

LC3-D115 and D150



(1) Recommended cabling for reversal of motor rotation (Standard motor, viewed from shaft end)

TeSys™ D-Line Contactors and Starters Enclosed Contactors and Starters

Horsepower Ratings for North American Applications of D-Line Products in Metal Enclosures

D-line enclosed full voltage starters are available in Type 1 and Type 12/3R enclosures through 50 hp at 460 Vac.
See pages 106 to 112 for a complete selection of D-line accessories. See page 155 for Insta-Kit accessories.



E154118
CCN NLDX
CCN NLDX7



LR23506 41
Class 3211 04

Enclosed full voltage non-reversing starters

Max. Horsepower Ratings (AC3) 3 Phase				Auxiliary Contacts		Current Rating of Contactor	Catalog Number Type 1	Weight kg (lb.)	Catalog Number Type 12/3R	Weight kg (lb.)
200 V	230 V	460 V	575V	N.O.	N.C.					
2	2	5	7 ¹ / ₂	1	...	9	LE1D093A62(1)(2)(3)(4)(5)	3.1 (6.9)	LE1D093A72(1)(2)(3)(4)(5)	3.5 (7.7)
3	3	7 ¹ / ₂	10	1	...	12	LE1D123A62(1)(2)(3)(4)(5)	3.1 (6.9)	LE1D123A72(1)(2)(3)(4)(5)	3.5 (7.7)
5	5	10	15	1	...	18	LE1D183A62(1)(2)(3)(4)(5)	3.1 (6.9)	LE1D183A72(1)(2)(3)(4)(5)	3.5 (7.7)
5	7 ¹ / ₂	15	20	1	...	25	LE1D253A62(1)(2)(3)(4)(5)	3.3 (7.3)	LE1D253A72(1)(2)(3)(4)(5)	3.6 (8.1)
7 ¹ / ₂	10	20	25	1	...	32	LE1D323A62(1)(2)(3)(4)(5)	3.3 (7.3)	LE1D323A72(1)(2)(3)(4)(5)	3.6 (8.1)
10	10	30	30	1	1	40	LE1D403A62(1)(2)(3)(4)(5)	5.1 (11.4)	LE1D403A72(1)(2)(3)(4)(5)	5.5 (12.3)
10	15	30	40	1	1	50	LE1D503A62(1)(2)(3)(4)(5)	5.1 (11.4)	LE1D503A72(1)(2)(3)(4)(5)	5.5 (12.3)
15	20	40	50	1	1	65	LE1D653A62(1)(2)(3)(4)(5)	7.4 (16.5)	LE1D653A72(1)(2)(3)(4)(5)	7.8 (17.4)
20	20	50	60	1	1	80	LE1D803A62(1)(2)(3)(4)(5)	7.6 (16.8)	LE1D803A72(1)(2)(3)(4)(5)	8.0 (17.8)

Enclosed full voltage reversing starters

Max. Horsepower Ratings (AC3) 3 Phase				Auxiliary Contacts		Current Rating of Contactor	Catalog Number Type 1	Weight kg (lb.)	Catalog Number Type 12/3R	Weight kg (lb.)
200 V	230 V	460 V	575 V	N.O.	N.C.					
2	2	5	7 ¹ / ₂	2	2	9	LE2D093A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D093A72(1)(2)(3)(4)(5)	4.9 (10.8)
3	3	7 ¹ / ₂	10	2	2	12	LE2D123A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D123A72(1)(2)(3)(4)(5)	4.9 (10.8)
5	5	10	15	2	2	18	LE2D183A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D183A72(1)(2)(3)(4)(5)	4.9 (10.8)
5	7 ¹ / ₂	15	20	2	2	25	LE2D253A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D253A72(1)(2)(3)(4)(5)	4.9 (10.8)
7 ¹ / ₂	10	20	25	2	2	32	LE2D323A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D323A72(1)(2)(3)(4)(5)	4.9 (10.8)
10	10	30	30	2	2	40	LE2D403A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D403A72(1)(2)(3)(4)(5)	4.9 (10.8)
10	15	30	40	2	2	50	LE2D503A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D503A72(1)(2)(3)(4)(5)	4.9 (10.8)
15	20	40	50	2	2	65	LE2D653A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D653A72(1)(2)(3)(4)(5)	4.9 (10.8)
20	20	50	60	2	2	80	LE2D803A62(1)(2)(3)(4)(5)	4.5 (10)	LE2D803A72(1)(2)(3)(4)(5)	4.9 (10.8)

NOTE: Use of control circuit transformers requires Insta-Kit wiring.

- Control Power Transformer: Select letter from below for primary voltage of CPT.

Control Power Transformer Primary Voltage Code Table

Voltage	No Transformer used	208	240	480	600
Code	O	L	M	T	X

- Contactor/starter coil voltage: Select coil voltage from table below.

NOTE: If control transformer is used, the only options available are 24 or 120 volts as the secondary of the transformer.

Contactor Coil Voltage Table

Voltage	24	120	208	240	480	600
AC	B	G	L	U	T	X

- Coil Frequency: Select: 7 = dual frequency coils (50/60 Hz), 6 = 60 Hz.

NOTE: For 9 to 32 A contactors, only dual frequency coils are available. For 40 to 80 A contactors, the 24 V to 240 V coils are dual frequency only (50/60 Hz.). The 480 V to 600 V coils are 60 Hz. only.

- Overload relay type: Select: 0 = No overload relay, 1 = Trip Class 10, 2 = Trip Class 20.
- Overload relay range: Select code from page 152.

NOTE: If no overload relay is required, leave this portion of the catalog number blank.

TeSys™ D-Line Contactors and Starters

Enclosed IEC Non-Combination Starters



LE2D093A62

Enclosed starter overload relay selection table

Code	Range	For use on Contactors
01	0.1–0.16	LC1D09–D32 ▲
02	0.16–0.25	LC1D09–D32 ▲
03	0.25–0.40	LC1D09–D32 ▲
04	0.40–0.63	LC1D09–D32 ▲
05	0.63–1.0	LC1D09–D32 ▲
06	1.0–1.6	LC1D09–D32 ▲
07	1.6–2.5	LC1D09–D32 ▲
08	2.5–4	LC1D09–D32
10	4–6	LC1D09–D32
12	5.5–8	LC1D09–D32
14	7–10	LC1D09–D32
16	9–13	LC1D12–D32
21	12–18	LC1D18–D32
22	16–24 ▲ 17–25 ■	LC1D25–D32 ▲ LC1D40–80 ■
30	23–28	LC1D25–D32 ■
32	25–32 ▲ 23–32 ■	LC1D25–D32
53	30–38	LC1D40–D80
55	30–40	LC1D40–D80
57	37–50	LC1D40–D80
59	48–65	LC1D40–D80
61	55–70	LC1D40–D80
63	63–80	LC1D40–80

▲ Available in Class 10 only
 ■ Available in Class 20 only

NOTE: Use of control circuit transformers requires Insta-Kit wiring.

- Control Power Transformer: Select letter from below for primary voltage of CPT.

Control Power Transformer Primary Voltage Code Table

Voltage	No Transformer used	208	240	480	600
Code	O	L	M	T	X

- Contactor/starter coil voltage: Select coil voltage from table below.

NOTE: If control transformer is used, the only options available are 24 or 120 volts as the secondary of the transformer.

Contactor Coil Voltage Table

Voltage	24	120	208	240	480	600
AC	B	G	L	U	T	X

- Coil frequency: Select: 7 = dual frequency for all starter coil selections except for 480 V or 600 V coils, on 40 A - 80 A starters select 6, 60 Hz only.
- Overload relay type: Select: 0 = No overload relay, 1 = Trip Class 10, 2 = Trip Class 20.
- Overload relay range: Select code from page 155.

NOTE: If no overload relay is required, leave this portion of the catalog number blank.

TeSys™ D-Line Contactors and Starters Enclosed IEC Combination Starters

Horsepower Ratings for North American Applications of

D-Line Products in Metal Enclosures with Fusible Disconnect Switch or Circuit Breaker

IEC combination starters combine the requirements of motor overload and short circuit protection in one convenient compact package. All devices provide Type 2 Coordination through 30 hp at 460 V. Devices are available in Type 1 and Type 12/3R enclosures.

NOTE: Use tables and notes from page 152 to complete the catalog numbers. See pages 106 to 112 for a complete selection of D-line accessories. See page 155 for Insta-Kit accessories.



E154118
CCN NLDX
CCN NLDX7



LR23506 41
Class 3211 04

Enclosed full voltage non-reversing fusible combination starters

Max. Horsepower Ratings (AC3) 3 Phase				Fuse Clip Rating		Auxiliary Contacts		Current Rating of Contactor	Catalog Number Type 1	Weight kg (lb.)	Catalog Number Type 12/3R	Weight kg (lb.)
200 V	230 V	460 V	575 V	Amperes	UL Class	N.O.	N.C.					
2	2	5	7½	30 A	CC	1	...	9	LE1D096B62(1)(2)(3)(4)(5)	8.1 (18)	LE1D096B72(1)(2)(3)(4)(5)	8.1 (18)
3	3	7½	10	30 A	CC	1	...	12	LE1D126B62(1)(2)(3)(4)(5)	8.1 (18)	LE1D126B72(1)(2)(3)(4)(5)	8.1 (18)
5	5	10	15	30 A	J	1	...	18	LE1D186B62(1)(2)(3)(4)(5)	8.1 (18)	LE1D186B72(1)(2)(3)(4)(5)	8.1 (18)
5	7½	15	20	30 A	J	1	...	25	LE1D256B62(1)(2)(3)(4)(5)	8.1 (18)	LE1D256B72(1)(2)(3)(4)(5)	8.1 (18)
7½	10	20	25	60 A	J	1	...	32	LE1D326C62(1)(2)(3)(4)(5)	11.7 (26)	LE1D326C72(1)(2)(3)(4)(5)	11.7 (26)
10	10	30	30	60 A	J	1	1	40	LE1D406C62(1)(2)(3)(4)(5)	12.6 (28)	LE1D406C72(1)(2)(3)(4)(5)	12.6 (28)

Enclosed full voltage reversing fusible combination starters

Max. Horsepower Ratings (AC3) 3 Phase				Fuse Clip Rating		Auxiliary Contacts		Current Rating of Contactor	Catalog Number Type 1	Weight kg (lb.)	Catalog Number Type 12/3R	Weight kg (lb.)
200 V	230 V	460 V	575 V	Amperes	UL Class	N.O.	N.C.					
2	2	5	7½	30 A	CC	2	2	9	LE2D096B62(1)(2)(3)(4)(5)	11.7 (26)	LE2D096B72(1)(2)(3)(4)(5)	11.7 (26)
3	3	7½	10	30 A	CC	2	2	12	LE2D126B62(1)(2)(3)(4)(5)	11.7 (26)	LE2D126B72(1)(2)(3)(4)(5)	11.7 (26)
5	5	10	15	30 A	J	2	2	18	LE2D186B62(1)(2)(3)(4)(5)	11.7 (26)	LE2D186B72(1)(2)(3)(4)(5)	11.7 (26)
5	7½	15	20	30 A	J	2	2	25	LE2D256B62(1)(2)(3)(4)(5)	11.7 (26)	LE2D256B72(1)(2)(3)(4)(5)	11.7 (26)
7½	10	20	25	60 A	J	2	2	32	LE2D326C62(1)(2)(3)(4)(5)	12.2 (27)	LE2D326C72(1)(2)(3)(4)(5)	12.2 (27)
10	10	30	30	60 A	J	2	2	40	LE2D406C62(1)(2)(3)(4)(5)	14.0 (31)	LE2D406C72(1)(2)(3)(4)(5)	14.0 (31)

Enclosed full voltage non-reversing circuit breaker combination starters

Max. Horsepower Ratings (AC3) 3 Phase				Auxiliary Contacts		Circuit Breaker Maximum Current Rating	Current Rating of Contactor	Catalog Number Type 1	Weight kg (lb.)	Catalog Number Type 12/3R	Weight kg (lb.)
200 V	230 V	460 V	575 V	N.O.	N.C.						
2	2	5	7½	1	-	15 A	9	LE1D097D62(1)(2)(3)(4)(5)	9.0 (20)	LE1D097D72(1)(2)(3)(4)(5)	9.0 (20)
3	3	7½	10	1	-	15 A	12	LE1D127D62(1)(2)(3)(4)(5)	9.0 (20)	LE1D127D72(1)(2)(3)(4)(5)	9.0 (20)
5	5	10	15	1	-	30 A	18	LE1D187E62(1)(2)(3)(4)(5)	9.0 (20)	LE1D187E72(1)(2)(3)(4)(5)	9.0 (20)
5	7½	15	20	1	-	30 A	25	LE1D257E62(1)(2)(3)(4)(5)	9.0 (20)	LE1D257E72(1)(2)(3)(4)(5)	9.0 (20)
7½	10	20	25	1	-	50 A	32	LE1D327F62(1)(2)(3)(4)(5)	12.2 (27)	LE1D327F72(1)(2)(3)(4)(5)	12.2 (27)
10	10	30	30	1	1	50 A	40	LE1D407F62(1)(2)(3)(4)(5)	13.0 (29)	LE1D407F72(1)(2)(3)(4)(5)	13.0 (29)

Enclosed full voltage reversing circuit breaker combination starters

Max. Horsepower Ratings (AC3) 3 Phase				Auxiliary Contacts		Circuit Breaker Maximum Current Rating	Current Rating of Contactor	Catalog Number Type 1	Weight kg (lb.)	Catalog Number Type 12/3R	Weight kg (lb.)
200 V	230 V	460 V	575 V	N.O.	N.C.						
2	2	5	7½	2	2	15 A	9	LE2D097D62(1)(2)(3)(4)(5)	10.8 (24)	LE2D097D72(1)(2)(3)(4)(5)	10.8 (24)
3	3	7½	10	2	2	15 A	12	LE2D127D62(1)(2)(3)(4)(5)	10.8 (24)	LE2D127D72(1)(2)(3)(4)(5)	10.8 (24)
5	5	10	15	2	2	30 A	18	LE2D187E62(1)(2)(3)(4)(5)	12.6 (28)	LE2D187E72(1)(2)(3)(4)(5)	12.6 (28)
5	7½	15	20	2	2	30 A	25	LE2D257E62(1)(2)(3)(4)(5)	12.6 (28)	LE2D257E72(1)(2)(3)(4)(5)	12.6 (28)
7½	10	20	25	2	2	50 A	32	LE2D327F62(1)(2)(3)(4)(5)	12.6 (28)	LE2D327F72(1)(2)(3)(4)(5)	12.6 (28)
10	10	30	30	2	2	50 A	40	LE2D407F62(1)(2)(3)(4)(5)	14.4 (32)	LE2D407F72(1)(2)(3)(4)(5)	14.4 (32)

TeSys™ D-Line Contactors and Starters

Enclosed IEC Combination Starters



LE1D406C72



LE1D097D62

Enclosed starter overload relay selection table

Code	Range	For use on Contactors
01	0.1–0.16	LC1D09–D32 ▲
02	0.16–0.25	LC1D09–D32 ▲
03	0.25–0.40	LC1D09–D32 ▲
04	0.40–0.63	LC1D09–D32 ▲
05	0.63–1.0	LC1D09–D32 ▲
06	1.0–1.6	LC1D09–D32 ▲
07	1.6–2.5	LC1D09–D32 ▲
08	2.5–4	LC1D09–D32
10	4–6	LC1D09–D32
12	5.5–8	LC1D09–D32
14	7–10	LC1D09–D32
16	9–13	LC1D12–D32
21	12–18	LC1D18–D32
22	16–24	LC1D25–D32
30	23–28	LC1D25–D32 ■
32	23–32	LC1D25–D32
53	30–38	LC1D40–D80
55	30–40	LC1D40–D80
57	37–50	LC1D40–D80
59	48–65	LC1D40–D80
61	55–70	LC1D40–D80

- ▲ Available in Class 10 only
- Available in Class 20 only

NOTE: Use of control circuit transformers requires Insta-Kit wiring.

- Control Power Transformer: Select letter from below for primary voltage of CPT.

Control Power Transformer Primary Voltage Code Table

Voltage	No Transformer used	208	240	480	600
Code	O	L	M	T	X

- Contactors/starter coil voltage: Select coil voltage from table below.

NOTE: If control transformer is used, the only options available are 24 or 120 volts as the secondary of the transformer.

Contactors Coil Voltage Table

Voltage	24	120	208	240	480	600
AC	B	G	L	U	T	X




- Coil frequency: Select: 7 = dual frequency for all starter coil selections except for 480 V or 600 V coils, on 40 A - 80 A starters select 6, 60 Hz only.
- Overload relay type: Select: 0 = No overload relay, 1 = Trip Class 10, 2 = Trip Class 20.
- Overload relay range: Select code from page 155.

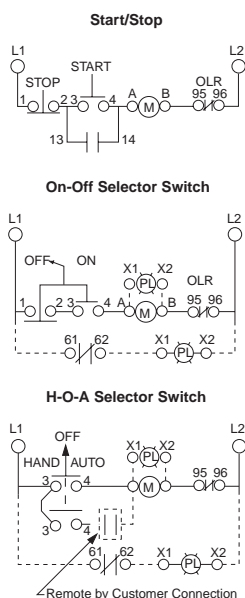
NOTE: If no overload relay is required, leave this portion of the catalog number blank.

TeSys™ D-Line Contactors and Starters Enclosed IEC Combination Starters

Factory Modifications and Insta-Kit Selection

Add the Factory Modification Code to the end of the catalog number created from pages 151 and 152. Only one operator scheme (factory modification code or field-installable Insta-Kit option) can be used. Only the combinations of operators and pilot lights shown below can be ordered. Pilot lights will be at the coil voltage indicated in the catalog number for the starter.

LA9FF4TK  E61239 CCN XPTQ CCN XPTQ7	All Others  E154118 CCN NLDX CCN NLDX7	 LR23506 41 Class 3211 04
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Description	Factory Modification Code ▲	Insta-Kits (for field installation)
Control Units Only		
For-Rev-Stop Push Button	A06L	LA9CA06LT
Start/Stop Push Button	A06G	LA9CA06GT
I/O (Start/Stop) Push Button	N/A	N/A
I/O Push Button (double touch)	A06I	LA9CA06IO
Emergency Stop	N/A	N/A
Start / Mushroom Head Stop Push Button	A06X	LA9CA06XT
Hand-Off-Auto Selector Switch	A06E	LA9CA06ET
On/off Selector Switch	A06D	LA9CA06DT
Pilot Lights only		
LED Pilot light, 24, 120 or 240 V	A16S	LA9CA16ST ★
Green-Red Pilot Light, 120 V ■	A06S	LA9CA06ST
Green-Red Transformer Pilot Light, 120, 208/240, 480 or 600 V ■	A06F	LA9CA06FT ★
Available combination of control units and pilot lights		
Hand-Off-Auto Selector Switch, 120 V LED Pilot Light	A16U	LA9CA16UT ★
Start/Stop Push Button w/ 24, 120 or 240 V LED Pilot Light	A16V	LA9CA16VT ★
On/off Selector w/ 24, 120 or 240 V LED Pilot Light	A16W	LA9CA16WT ★
Start/Stop Push Button w/ Green-Red Transformer Pilot Light	A06N	LA9CA06NT ★
Start/Stop Push Button w/Green-Red Pilot Light	A06G	LA9CA06VT
Hand-Off-Auto Selector Switch w/Green-Red Pilot Light 120 V	A06U	LA9CA06UT
Hand-Off-Auto Selector Switch w/Green-Red Transformer Pilot Light	A06J	LA9CA06JT ★
On/Off Selector w/Green-Red Pilot Light	A06W	LA9CA06WT
On/Off Selector w/Green-Red Transformer Pilot Light	A06H	LA9CA06HT ★
Control Power Transformer		
Standard VA, 2 fuses in Primary, 1 Fuse in secondary	A206P	◆
50 VA extra, 2 fuses in Primary, 1 Fuse in secondary	A207P	◆
100 VA extra, 2 fuses in Primary, 1 Fuse in secondary	A208P	◆
Local / Remote Adapter, 3-wire ●	-	LA9AADIS3
Local / Remote Adapter, 4-wire ●	-	LA9AADIS4
Local / Remote Adapter, 5-wire ●	-	LA9AADIS5
Local / Remote Adapter, 7-wire ●	-	LA9AADIS7

- ▲ Add these forms to the catalog number selected on pages 151 or 152. The numbers as shown are for use in NEMA 1 Enclosures. For uses in NEMA 12/3R change the 6 to a 7 (ex A06U becomes A07U). The change DOES NOT apply to control power transformer forms or Insta-Kits.
- Pilot lights are wired such that the light is on when the contactor is energized. For non-LED type pilot lights, a green lens is installed on the unit when shipped. A red lens is included for use as applicable.
- ◆ Select Insta-Kit from table below.
- ★ Complete the catalog number for the Insta-Kit by selecting the voltage code from the appropriate tables below.
- 3-wire adapter required when START/STOP pushbutton remote station is used in conjunction with START/STOP local control OR if local pilot light only is used.
 4-wire adapter required when FOR/REV/STOP is required for both local and remote control.
 5-wire adapter required when START/STOP pushbutton with pilot light remote station OR pilot light only remote is used with START/STOP pushbutton local control.
 7-wire adapter required for remote control only applications.

Total VA	Insta-Kit Catalog Number	Weight / kg (lb.)
50	LA9TFD32 ★	0.80 (1.75)
100	LA9TFD80 ★	1.45 (3.25)

Voltage Codes for pilot lights

Voltage (Vac)	24	120	208/240	480	600
Code	B	G	M	T	X

Voltage Codes for control power transformers

Primary Voltage	120	208	240	480	600	208	240	480	600
Secondary Voltage	24					120			
Code	E	D	C	B	A	L	M	T	X

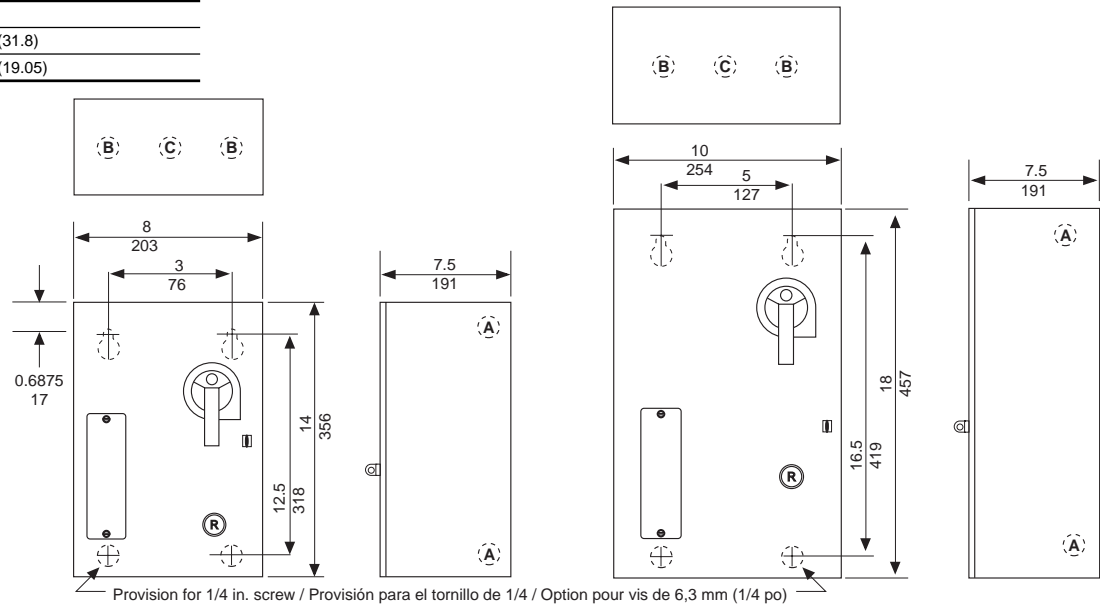
TeSys™ D-Line Contactors and Starters

Dimensions for Enclosed Combination and Non-Combination IEC Starters

Combination Starter Dimensions with Rotary Disconnect Handle - Type 1

Knockout Schedule

Knockout	Conduit Size, in. (mm)
A	0.50 (12.7)
B	1.00 (25.4); 1.25 (31.8)
C	0.50 (12.7); 0.75 (19.05)

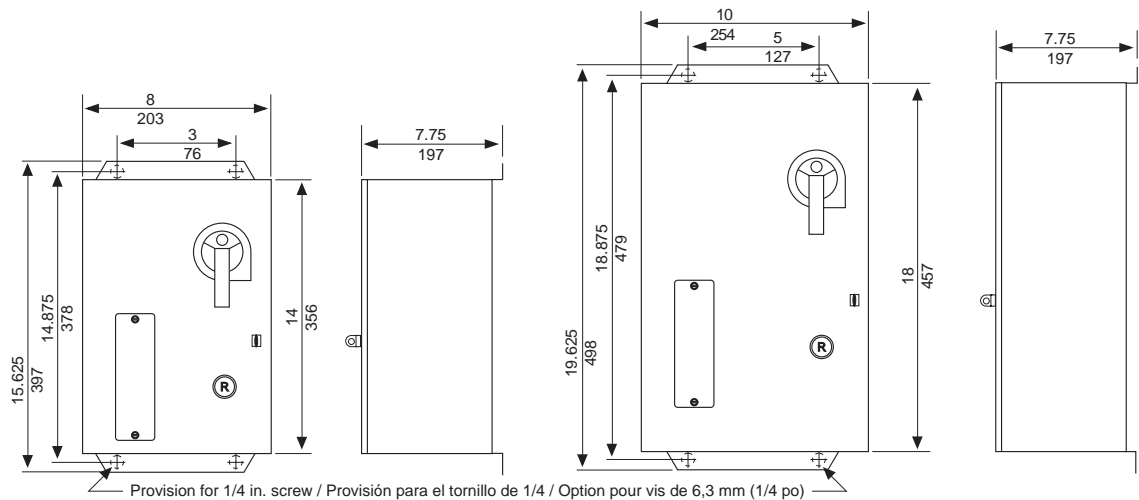


Dual Dimensions: $\frac{\text{Inches}}{\text{mm}}$

D09-25 (FVNR)

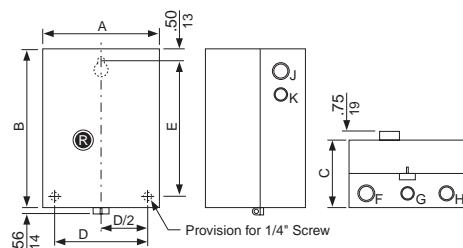
D09-40 (FVR); D32-40 (FVNR)

Type 12



D09-25 (FVNR)

D09-40 (FVR); D32-40 (FVNR)



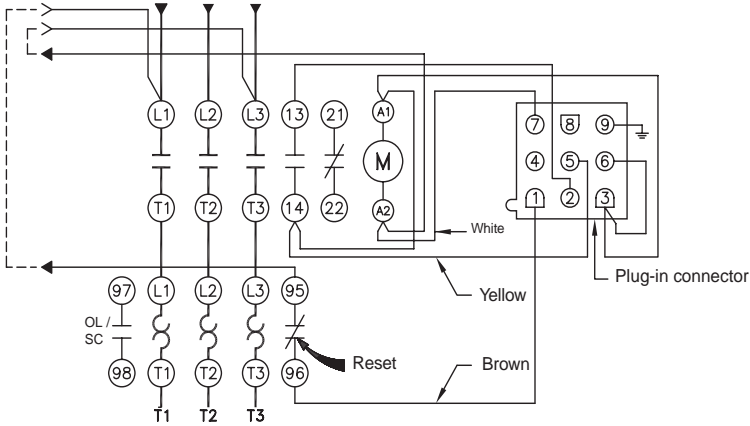
Non-combination Starter Dimensions

		TYPE 1										TYPE 12/3R	
Non-reversing	Reversing	A	B	C	D	E	F	G	H	J	K	D	E
D09-25	...	6.77 172	10.04 255	6.25 158	5.38 136	9.00 228	1-1/4 25.4-31.7	1/2-3/4 12.7-19	-	1-1/4 25.4-6.3	1/2-3/4 12.7-19	5.38 13.6	11.37 288
D32-50	D09-32	8.66 220	10.83 275	7.21 183	7.25 184	9.75 247	1 1/4-1 1/2 31.7-38.1	1/2-3/4 12.7-19	1-1 1/4 25.4-31.7	1-1/4 25.4-6.3	1/2-3/4 12.7-19	5.38 13.6	12.15 308
D65-80	D40-80	10.63 270	13.98 355	7.21 183	9.22 234	12.94 328	1 1/4-1 1/2 31.7-38.1	1/2-3/4 12.7-19	1-1 1/4 25.4-31.7	1-1/4 25.4-6.3	1/2-3/4 12.7-19	5.38 13.6	15.30 385

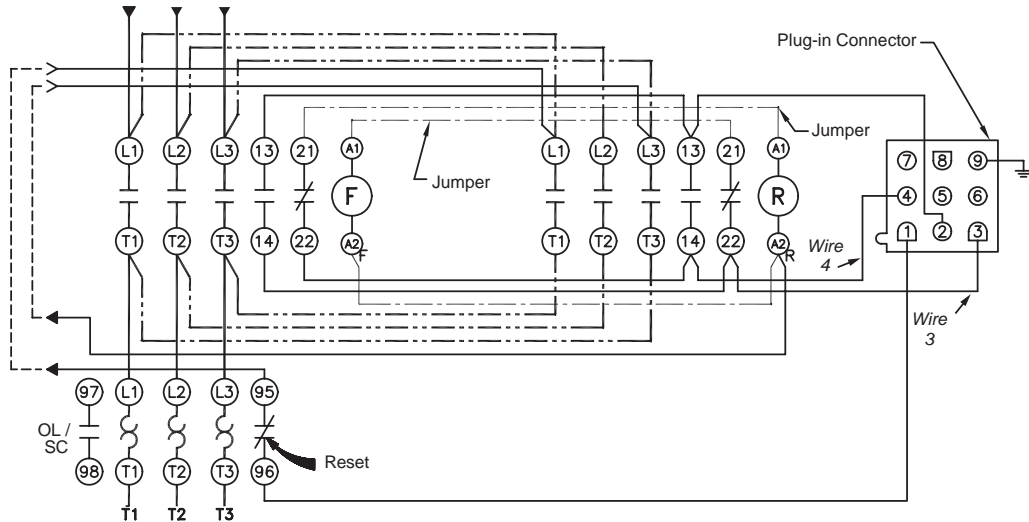
TeSys™ D-Line Contactors and Starters

Schematics for Enclosed IEC Non-Combination Starters

Non-Reversing, Non-Combination 3-Phase Starter



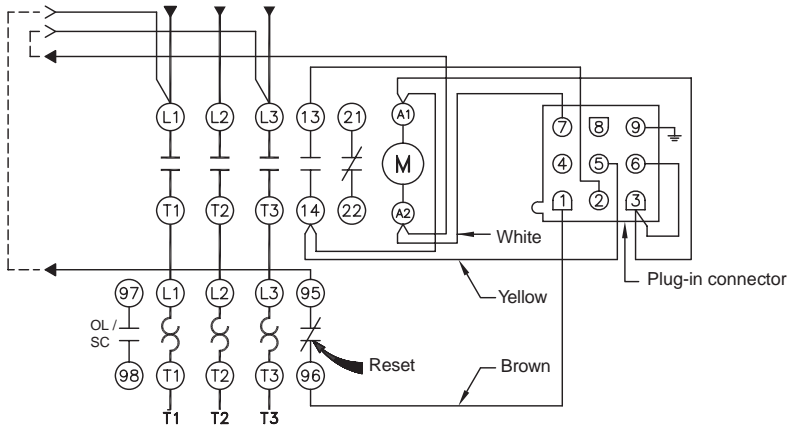
Reversing, Non-Combination 3-Phase Starter



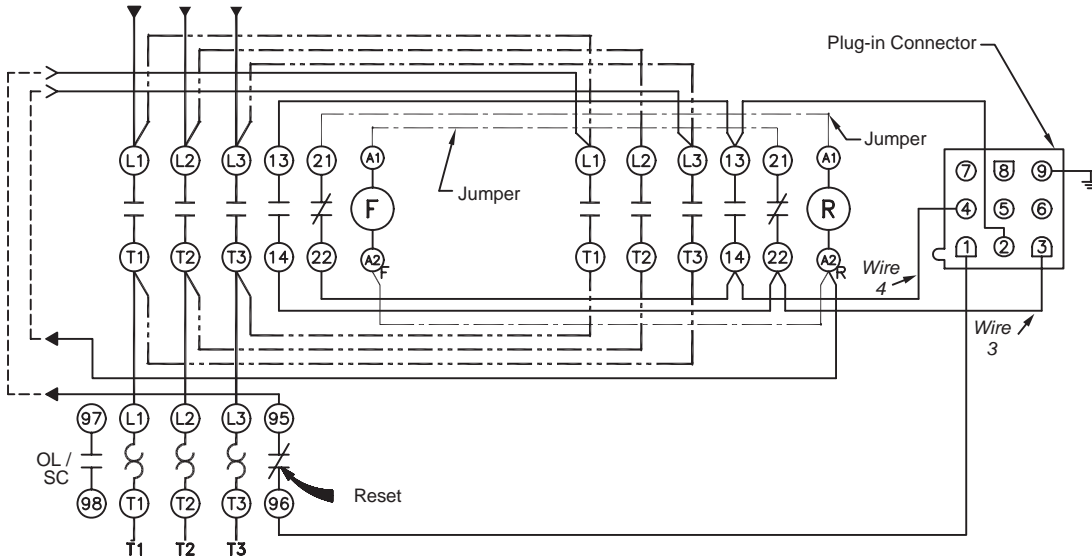
TeSys™ D-Line Contactors and Starters

Schematics for Enclosed IEC Combination Starters

Non-Reversing, Combination 3-Phase Starter



Reversing, Combination 3-Phase Starter



TeSys™ D-Line Contactors and Starters

Enclosed Contactors LE1D and LE2D

International
Applications Only

D.O.L. AC Starters for Motor Control (1) 2.2 to 45 kW, without Isolator Device

Characteristics

Conforming to standards	IEC 60947-4-1 and IEC 60439-1, VDE 0660-102, EN 60947
Degree of protection to IEC 60529	IP 659: LE2K, IP 657: LE●D09 to D35 and IP 557: LE●D405 to D955
Ambient air temperature	For operation: - 5 to + 40 °C (- 41 to + 104 °F)
Operating positions	Identical to positions for contactors
Material	Poly carbonate (2): LE2K and LE●D09 to D35. Sheet steel: LE●D405 to D955

Non-reversing Starters

Standard Power Ratings of 3-phase Motors 50/60 Hz in Category AC-3 (kW)						Maximum Current I the up to	Catalog Number, Complete with Control Circuit Voltage Code (3)	Standard Voltages	Weight lbs (kg)
220 230 V	380 400 V	415V	440 V	500 V	660 690 V				
2.2	4	4	4	5.5	5.5	9	LE1D09●●	F7 P7 V7	2.03 (0.92)
3	5.5	5.5	5.5	7.5	7.5	12	LE1D12●●	F7 P7 V7	2.03 (0.92)
4	7.5	9	9	10	10	18	LE1D18●●	F7 P7 V7	2.24 (1.015)
5.5	11	11	11	15	15	25	LE1D25●●	F7 P7 V7	2.24 (1.015)
7.5	15	15	15	18.5	18.5	35	LE1D35●●	F7 P7 V7	9.53 (4.320)
11	18.5	22	22	22	30	40	LE1D405●●	F7 P7 V7	10.63 (4.82)
15	22	25	30	30	33	50	LE1D505●●	F7 P7 V7	10.69 (4.85)
18.5	30	37	37	37	37	65	LE1D655●●	F7 P7 V7	10.69 (4.85)
22	37	45	45	55	45	80	LE1D805●●	F7 P7 V7	11.33 (5.14)
25	45	45	45	55	45	95	LE1D955●●	F7 P7 V7	12.0 (5.44)



LE1D12●●

Reversing Starters

1.5	2.2	2.2	3	-	-	6	LE2K065●●	F7 P7 V7	2.38 (1.08)
2.2	4	4	4	-	-	9	LE2K095●●	F7 P7 V7	2.38 (1.08)
-	-	-	-	5.5	5.5	9	LE2D09●●	F7 P7 V7	4.63 (2.100)
-	-	-	-	5.5	5.5	9	LE2D09●●	F7 P7 V7	4.63 (2.100)
3	5.5	5.5	5.5	7.5	7.5	12	LE2D12●●	F7 P7 V7	4.63 (2.100)
4	7.5	9	9	10	10	18	LE2D18●●	F7 P7 V7	5.31 (2.410)
5.5	11	11	11	15	15	25	LE2D25●●	F7 P7 V7	5.66 (2.570)
7.5	15	15	15	18.5	18.5	35	LE2D35●●	F7 P7 V7	9.0 (4.100)
11	18.5	22	22	22	30	40	LE2D405●●	F7 P7 V7	11.6 (5.270)
15	22	25	30	30	33	50	LE2D505●●	F7 P7 V7	12.06 (5.470)
18.5	30	37	37	37	37	65	LE2D655●●	F7 P7 V7	12.06 (5.470)
22	37	45	45	55	45	80	LE2D805●●	F7 P7 V7	14.77 (6.700)
25	45	45	45	55	45	95	LE2D955●●	F7 P7 V7	15.43 (7.000)



LE2D12●●

- (1) Protection must be provided by addition of an overload relay, to be ordered separately, see pages 134 and 135.
- (2) Avoid placing this material in contact with harsh substances (detergents, chlorinated solvents, ketones, alcohol, aromatic hydrocarbons).
- (3) Standard control circuit voltages.

Volts AC 50/60 Hz	24	42	48	110	115	220	230	240	380	400	415	440
LE2K	B7	D7	E7	F7	-	M7	P7	U7	Q7	V7	N7	R7
LE1, LE2D	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7

For other voltages please consult your Regional Sales Office.

- (4) Selection according to the number of operating cycles, please consult your Regional Sales Office.

TeSys™ D-Line Contactors and Starters

Enclosed Contactors LE1D and LE2D



LE1D12••A04

D.O.L. AC Starters for Motor Control (1) 2.2 to 45 kW without Isolator Device, Non-reversing

Description

Standard versions comprise:

- For non-reversing starters:
 - 1 green Start button "I",
 - 1 red Stop/Reset button "O".
- For reversing starters:
 - 1 Start button ↑,
 - 1 Start button ↓,
 - 1 red Stop/Reset button.
- LE2K:
 - 1 2-position spring return selector switch "I"- "II",
 - 1 red Stop/Reset button "O".
- LE2D09 to D35:
 - 1 2-position spring return selector switch "I"- "II",
 - 1 red Stop/Reset button "O".
- LE2D405 to D955:
 - 1 blue Reset button "R".



LE1D12••A05

Forms (installed by Telemecanique)

Description	For Use On	Suffix to be Added to Starter Catalog Number (2)
No push buttons on cover	LE1D09 through D955 LE2D09 through D955	A04
1 green Start button "I" 1 green Start button "II" 1 red Stop/Reset button "O"	LE2D405 through D955	A11
1 blue Reset button "R"	LE1D09 through D955 LE2K06 and K09 LE2D09 through D35	A05
1 3-position stay put selector switch ("I"- "O"- "II") ("I": Automatic Start; "O": Stop; "II": Manual Start) 1 blue Reset button "R"	LE1D09 through D35	A09
1 2-position stay put selector switch ("O"- "I") ("O": Stop; "I": Manual Start) 1 blue Reset button "R"	LE1D09 through D35	A13
1 3-position stay put selector switch "O"- "I" with spring return to center position ("I": Manual start; "O": Stop, stay put) 1 blue Reset button "R"	LE1D09 through D35	A35
1 neutral terminal Fitted as standard on LE1 and LE2D18 to D955 starters ordered with 220 V (M7), 230 V (P7) or 240 V (U7) control circuit voltage.	LE1D09 through D955 LE2K06 and K09 LE2D09 through D955	A59



LE1D12••A09

Accessories (installed by the customer)

Description	For Use On	Catalog Number	Weight lbs (kg)
Start pushbutton latching device for stay-put operation (Start-Stop)	LE1D405 through D955	LA9D09907	0.13 (0.06)

(1) See previous page.

(2) Example: **LE1D093F7A04**

Other versions: Combination of 2 accessories, please consult your Regional Sales Office.



LE1D12••A13



LE1D12••A35

TeSys™ D-Line Contactors and Starters

Enclosed Contactors with Fused Disconnect Switch LE2, LE4, and LE8

International
Applications Only

D.O.L. AC Starters for Motor Control (1), 2.2 to 45 kW with Isolator Device

Characteristics

Conforming to standards	IEC 60947-4-1 and IEC 60439-1, VDE 0660-102, EN 60947
Degree of protection to IEC 529	IP 659: LE•K, IP 657: LE•D09 to D35 and IP 55: LE•D406 to D806
Ambient air temperature	For operation: - 5 to + 40 °C (- 41 to + 104 °F)
Operating positions	Identical to positions for contactors
Material	Poly carbonate (2): LE•K and LE•D09 to D35. Sheet steel: LE•D406 to D806

Non-reversing Starters



LE4D12**



LE8D12**

Standard Power Ratings of 3-phase Motors 50/60 Hz in Category AC-3 (kW)							Operational Current (A) 440 V up to	Fuses to be fitted by the customer		Catalog Number, Complete with Control Circuit Voltage Code (3)	Weigh lbs (kg)
220 230 V	380 400 V	415V	440 V	500 V	660 690 V	Size		Type aM A			
1.5	2.2	2.2	3	-	-	6	10 X 38	10	LE4K065**	3.19 (1.45)	
2.2	4	4	4	-	-	9	10 X 38	12	LE4K095**	3.19 (1.45)	
2.2	4	4	4	-	-	9	10 X 38	12	or LE4D09** (4)	4.32 (1.96)	
2.2	4	4	4	5.5	-	9	10 X 38	12	LE4D09**	4.32 (1.96)	
3	5.5	5.5	5.5	7.5	-	12	10 X 38	16	LE4D12**	4.32 (1.96)	
4	7.5	9	9	10	-	18	10 X 38	20	LE4D18**	4.85 (2.20)	
5.5	11	11	11	15	-	25	10 X 38	25	LE4D25**	4.85 (2.20)	
7.5	15	15	15	18.5	18.5	35	14 X 51	32	LE4D35**	11.4 (5.19)	
11	18.5	22	22	22	30	40	14 X 51	40	LE4D406**	12.7 (5.77)	
15	22	25	30	30	33	50	22 X 58	63	LE4D506**	14.2 (6.44)	
18.5	30	37	37	37	37	65	22 X 58	80	LE4D656**	14.7 (6.67)	
22	37	45	45	55	45	80	22 X 58	80	LE4D806** (5)	15.6 (7.10)	

Reversing Starters

1.5	2.2	2.2	3	-	-	6	10 X 38	10	LE8K065**	3.52 (1.60)
2.2	4	4	4	-	-	9	10 x 38	12	LE8K095**	3.52 (1.60)
2.2	4	4	4	-	-	9	10 x 38	12	or LE8D09** (4)	7.82 (3.55)
-	-	-	-	5.5	-	9	10 x 38	12	LE8D09**	7.82 (3.55)
3	5.5	5.5	5.5	7.5	-	12	10 x 38	16	LE8D12**	7.82 (3.55)
4	7.5	9	9	10	-	18	10 x 38	20	LE8D18**	8.16 (3.70)
5.5	11	11	11	15	-	25	10 x 38	25	LE8D25**	10.3 (4.67)
7.5	15	15	15	18.5	18.5	35	14 x 51	32	LE8D35**	12.8 (5.80)
11	18.5	22	22	22	30	40	14 x 51	40	LE2D406**	31.24 (14.17)
15	22	25	30	30	33	50	22 x 58	63	LE2D506**	32.40 (14.17)
18.5	30	37	37	37	37	65	22 x 58	80	LE2D656**	32.56 (14.77)
22	37	45	45	55	45	80	22 x 58	80	LE2D806**	35.30 (16.00)

- (1) Protection must be provided by addition of an overload relay, to be ordered separately, see pages 134 and 135.
- (2) Avoid placing this material in contact with harsh substances (detergents, chlorinated solvents, ketones, alcohol, aromatic hydrocarbons).
- (3) Standard control circuit voltages.

Volts AC 50/60 Hz	24	42	48	110	115	220	230	240	380	400	415	440
LE•K	B7	D7	E7	F7	-	M7	P7	U7	Q7	V7	N7	R7
LE•D	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7

For other voltages please consult your Regional Sales Office.

- (4) Selection according to dimensions and the number of operating cycles, please consult your Regional Sales Office.
- (5) Supplied with 3 cable entries.

TeSys™ D-Line Contactors and Starters

Enclosed Reversing Starters with Fused Disconnect Switch LE2, LE4 and LE8

International
Applications Only

D.O.L. AC Starters for Motor Control (1) 2.2 to 45 kW with Isolator Device



LE4D12••A04



LE4D12••A05

Description

Standard versions comprise:

- For non-reversing starters:
 - LE4K and LE4D09 to D656: 1 green Start button "I",
1 red Stop/Reset button "O".
 - LE4D806: no pushbuttons on cover.
- For reversing starters:
 - LE8K: 1 Start button ↑,
1 Start button ↓,
1 red Stop/Reset button.
 - LE8D09 to D35: 1 2-position spring return selector switch "I"- "II",
1 red Stop/Reset button "O".
 - LE2D406 to D806: no pushbuttons on cover

Protection	Power Circuit	Control Circuit
LE4 and LE8K	1 3-pole isolating device	None
LE4 and LE8D09 to D35	1 3-pole isolating device	+ 1 additional pole LA8D254
LE4 and LE2D406 to D806	1 3-pole isolating device	+ 1 circuit-breaker GB2CB08

Forms (installed by Telemecanique)

Description	For Use On	Suffix to be Added to Starter Catalog Number (2)
No push buttons on cover	LE4D09 through D656 LE8D09 through D35	A04
1 green Start button "I" 1 green Start button "II" 1 red Stop/Reset button "O"	LE2D406 through D806	A11
1 blue Reset button "R"	LE4D09 through D806 LE8K06 and K09 LE2D406 through D806	A05
1 neutral terminal Fitted as standard on LE4D18 to D806, LE8D18 to D35 and LE4D406 to D806 starters ordered with 220 V (M7), 230 V (P7) or 240 V (U7) control circuit voltage.	LE4K06 and K09 LE4D09 through D806 LE8K06 and K09 LE8D09 through D35 LE2D406 through D806	A59

Accessories (installed by the customer)

Description	For Use On	Catalog Number	Weight lbs (kg)
Start pushbutton latching device for stay-put operation (Start-Stop)	LE4D406 through D656	LA9D09907	0.13 (0.06)

(1) See previous page.

(2) Example: **LE4D09F7A04**

Other versions: Combination of 2 accessories, please consult your Regional Sales Office.

TeSys™ D-Line Contactors and Starters

Wye-delta Starters LE3D (International Applications Only)

Wye-Delta Starters for Motor Control from 4 to 75 kW, without Off-Load Isolator (1) - References

Selection



LE3D12**

Standard Power Ratings of Squirrel Cage Motors Mains Voltage - Delta Connection (kW)				Catalog Number, Complete with Control Circuit Voltage Code (2)	Normal Control Circuit Voltage Code	Weight lbs (kg)
220 V	380 V	415V	440 V			
Maximum operating rate in starts/hour: LE3-K: 12 and LE3-D: 30. Maximum starting time: 30 seconds. (4)						
3	5.5	5.5	5.5	LE3K065**	F7 M7 Q7	3.22 (1.46)
4	7.5	7.5	7.5	LE3K095**	F7 M7 Q7	3.22 (1.46)
				or LE3D09**	F7 M7 Q7	8.05 (3.65)
5.5	11	11	11	LE3D12**	F7 M7 Q7	8.05 (3.65)
11	18.5	22	22	LE3D18**	F7 M7 Q7	8.27 (3.75)
15	25	30	30	LE3D32**	F7 M7 Q7	11.38 (5.16)
18.5	37	37	37	LE3D405**	F7 M7 Q7	17.99 (8.16)
30	55	59	59	LE3D505**	F7 M7 Q7	17.97 (8.15)
37	75	75	75	LE3D805**	F7 M7 Q7	30.87 (14.00)

Specifications

Enclosure	LE3D09 through D80	Metal Enclosure, IP 559
Control (2 push buttons mounted on enclosure cover)	LE3D09 through D18	1 green start button "I" 1 red stop/reset button "O"
No push buttons on cover	LE3D32 through D80	-
Connections	LE3K06 and K09	Pre-wired power and control circuit connections

A timer LA2-DS2 imposes a delay of 40 ms ± 15 ms on the delta contactor at the moment of changeover to ensure that the star contactor has sufficient breaking time.

Forms (installed by Telemecanique)

Description	For Use On	Suffix to be Added to Starter Catalog Number (5)
No push buttons on cover	LE3D09 through D18	A04
1 blue reset button "R"	LE3D09 through D80	A05
1 green start button "I" 1 red stop/reset button "O"	LE3D32 through D80	A06
1 neutral terminal Fitted as standard on starters ordered with 240 V (U7) control circuit voltage.	LE3K06 and K09 LE3D09 through D80	A59
Mechanical interlock Fitted as standard on starters LE3K and LE3D09 to D35	LE3D405 TO D150	A64

Control Circuit Voltage Codes

LE3-K (6)

Control Voltage 50/60 Hz	12	24	36	42	48	110	127	220/ 230	230	230- 240	380/ 400	400	400/ 415	440	500	660/ 690
Code	J7	B7	C7	D7	E7	F7	FC7	M7	P7	U7	Q7	V7	N7	R7	S7	Y7

LE3-D (6)

Control Voltage 50/60 Hz	24	42	48	110	220/230	230	240	380/400	400	415	440
Code	B7	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7

- (1) Overload protection by thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 the full load rated motor current.
 - (2) Standard control circuit voltages (variable delivery time, please consult your Regional Sales Office).
 - (4) Selection according to size and number of operating cycles (see AC-3 curves, page 20).
 - (5) Example: LE3-D095F7A04.
 - (6) Other voltages: For LE3-K, please consult your Regional Sales Office.
- Other versions: Combination of 2 accessories, please consult your Regional Sales Office.

TeSys™ D-Line Contactors and Starters

Wye-delta Starters with Fused Disconnect Switch LE3D (International Applications Only)

International Applications Only

NOTE: Wiring methods differ from typical North American practice. Contains UL Listed, CSA Certified, and CE marked components. Assemblies are not UL Listed or CSA Certified.



LE6D12**

Standard power ratings of squirrel cage motors Mains voltages - delta connection				Fuses to be installed by customer		Catalog Number ■ ▼	Weight
220 V	380 V	415 V	440 V	Size	Type aM		
kW	kW	kW	kW		A		kg (lb.)
Maximum operating rate: 30 starts/hour. Maximum starting time: 30 seconds.							
4	7.5	7.5	7.5	10 x 38	20	LE6D09**	3.900 (8.598)
5.5	11	11	11	10 x 38	25	LE6D12**	3.900 (8.598)
11	18.5	22	22	14 x 51	40	LE6D18**	4.850 (10.692)
15	25	30	30	22 x 58	63	LE6D326**	7.650 (16.865)
18.5	37	37	37	22 x 58	80	LE3D406**	16.90 (37.256)
30	55	59	59	22 x 58	125	LE3D506**	17.00 (37.478)
37	75	75	75	0	160	LE3D806**	27.50 (60.626)

Specifications

Enclosure	LE3D09 to LE3D80	Metal enclosure, degree of protection IP 559
Control (2 pushbuttons on enclosure cover)	LE3D09 and LE3D12	1 green Start button "I" 1 red Stop/Reset button "O"
No pushbuttons on cover	LE3D18 to LE3D80	–
Isolator with external operator	LE3D09 and LE3D12	1 3-pole isolator + 1 additional pole LA8D254
	LE3D18 to LE3D80	1 3-pole isolator and 1 circuit breaker GB2-CB08
Connections	LE3D09 to LE3D80	Pre-wired power and control circuit connections

A timer LA2DS2 imposes a delay of 40 ms ± 15 ms on the delta contactor at the moment of changeover to ensure that the star contactor has sufficient breaking time.

- Overload protection by means of bimetallic overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full-load rated motor current.
- ▼ Complete catalog number with appropriate coil selection code below.

Coil Selection

50/60 Hz	24	42	48	110	220/230	230	240	380/400	400	415	440
Voltage Code	B7	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7



LE6D12**A04

Forms (installed by Telemecanique)

Description	For use on	Suffix to be added to starter catalog number ●
No pushbuttons on cover	LE3D09 to LE3D12	A04
1 blue Reset button "R"	LE3D09 to LE3D80	A05
1 green Start button "I" 1 red Stop/Reset button "O"	LE3D18 to LE3D80	A06
1 neutral terminal Fitted as standard on starters ordered with 240 V (U7) control supply	LE3D09 to LE3D80	A59
Mechanical interlock Fitted as standard on starters LE6D09 to D18	LE3D326 to D80	A64

- For example: LE3D096F7A04.



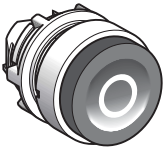
LE6D12**A05

TeSys™ D-Line Contactors and Starters

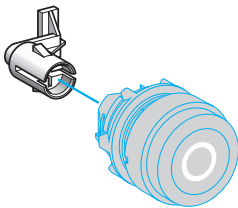
Spare Parts and Accessories (International Applications Only)



ZB5AA331



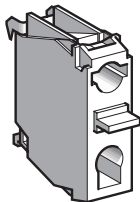
ZB5AL432



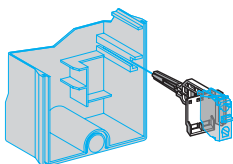
LAD9091



ZB5AD•



ZENL1111



LAD91809

Operating Heads for Start and Stop/Reset Pushbuttons

Description	For use on	Catalog Number	Weight – kg (lb.)
Flush green "I" (1)	LE1D09 to D35	ZB5AA331	0.018 (0.040)
Projecting red "O" (1)	LE1D09 to D35	ZB5AL432	0.019 (0.042)
Mounting kit for head ZB5AL432	LE1D09 and D12	LAD9091	0.002 (0.004)
	LE1D18 to D35	LAD91810	0.003 (0.006)

Operating Heads for Reset Pushbuttons

Flush blue "R" (2)	LE1D09 to D35	ZB5AA0	0.022 (0.048)
		ZB639 (3)	0.001 (0.002)
Mounting kit for head ZB5AA0 + ZB639	LE1D09 and D12	LAD9092	0.002 (0.004)
	LE1 or LE2D18 to D35	LAD91810	0.003 (0.006)
	LE3, LE6, LE4 or LE8D09 to D35	LAD9T4	0.004 (0.008)

Operating Heads for Selector Switches

Description	For use on	Catalog Number	Weight – kg (lb.)
3 position stay put	LE1D09 to D35	ZB5AD3	0.024 (0.053)
2 position stay put	LE1D09 to D35	ZB5AD2	0.024 (0.053)
3 position spring return to center	LE1D09 to D35	ZB5AD5	0.024 (0.053)

Contact Blocks

1 N.O. spring return	LE1D09 to D35	ZENL1111	0.010 (0.022)
1 N.C. spring return	LE1D09 to D35	ZENL1121	0.010 (0.022)
Contact block support	LE1D09 and D12	LAD90909	0.008 (0.017)
	LE•D18 to D35 (4)	LAD91809	0.014 (0.031)

- (1) Remember to order mounting kit **LAD9091** or **LAD91810**, depending on the size.
- (2) Remember to order mounting kit **LAD9092**.
- (3) Sold in lots of 10.
- (4) LE1, LE2, LE3, LE4, LE6 or LE8.

TeSys™ D-Line Contactors and Starters

Spare Parts and Accessories (International Applications Only)

Empty Enclosures for D.O.L. Starters Without Isolator Device



DE1DS1A04



DE1DS1A05



DE1DS1



DE1DS1A13

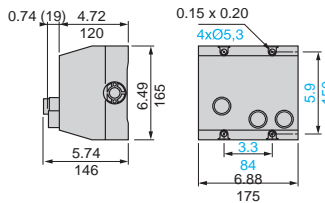
For use with	Push button operating head(s) or blanking plug(s) mounted on the cover	Catalog Number	Weight
			kg (lb.)
LE1D09, D12	Without	DE1DS1A04	0.300 (0.66)
	1 flush blue head "R"	DE1DS1A05	0.300 (0.66)
	1 flush green head "I" 1 projecting red head "O"	DE1DS1	0.300 (0.66)
	1 flush blue head "R" 1 switch	DE1DS1A13	0.300 (0.66)
LE1D18 to D35	Without	DE1DS2A04	0.500 (1.10)
	1 flush blue head "R"	DE1DS2A05	0.500 (1.10)
	1 flush green head "I" 1 projecting red head "O"	DE1DS2	0.500 (1.10)
	1 flush blue head "R" 1 switch	DE1DS2A13	0.500 (1.10)

TeSys™ D-Line Contactors and Starters LE-D Dimensions (International Applications Only)

Enclosed D-line Starters Without Fused Disconnect Switch

LE1D09 and D12	LE1D18 to D35 LE2D09 to D35	LE1D405 to D655
c1	c1 LE1D LE2D	c1
Standard version 5.05 (128.5)	Standard version 6.0 (153.5) 6.3 (160)	Standard version 6.33 (161)
Version A04 4.7 (120)	Version A04 5.7 (145) 5.7 (145)	Version A04 5.9 (150)
Version A05 5.05 (128.5)	Version A05 6.0 (153.5) 6.0 (153.5)	Version A05 6.33 (161)
Version A09 5.31 (135)	Version A09 6.3 (160) —	
Version A13 5.31 (135)	Version A13 6.3 (160) —	
Version A35 5.31 (135)	Version A35 6.3 (160) —	

LE2D095, LE2D125, LE2D185, LE2D255



Dual Dimensions: Inches
mm

LE1D805 and D955 LE2D405 to D655	LE2D805 and D955
c1	c1
LE1D LE2D	
Standard version 6.9 (176) 6.9 (176)	Standard version 7.6 (194)
Version A04 6.5 (165) 6.5 (165)	Version A04 7.48 (190)
Version A05 6.9 (176) —	Version A05 7.6 (194)
Version A11 — 6.9 (176)	

Knock-outs or Blanking Plugs for Cable Glands

Type of Enclosure	At top		At bottom	
	PG	ISO	PG	ISO
LE1D09 and D12	2 x 13 or 2 x 16	2 x 20 I	2 x 13 or 2 x 16	2 x 20 I
LE1D18 to D35 and LE2D09 to D35	2 x 16 or 2 x 21	2 x 20 I or 2 x 25 I	2 x 16 or 2 x 21	2 x 20 I or 2 x 25 I
LE2D405	1 x 13 and 1 x 21	1 x 20 I and 1 x 25 I	1 x 13 and 2 x 21	1 x 20 I and 2 x 25 I
LE1D405 to D655 and LE2D505 and D655	1 x 13 and 1 x 29	1 x 20 I and 1 x 32 I	1 x 13 and 2 x 29	1 x 20 I and 2 x 32 I
LE1 or LE2D805 and D955	1 x 13 and 1 x 36	1 x 20 I and 1 x 40 I	1 x 13 and 2 x 36	1 x 20 I and 2 x 40 I
LE2K	2 x 13 and 2 x 16	4 x 20 I	2 x 13 and 2 x 16	4 x 20 I

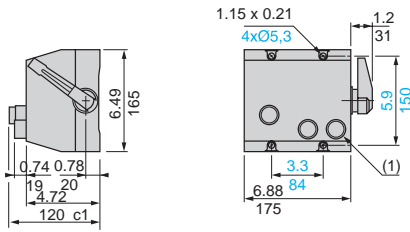
(millimeters x 0.0394 = inches)

TeSys™ D-Line Contactors and Starters

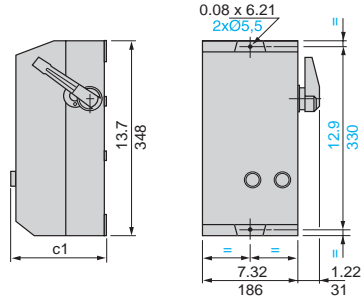
LE-D Dimensions (International Applications Only)

Enclosed D-line Starters With Fused Disconnect Switch

LE4K06 and K09
LE8K06 and K09



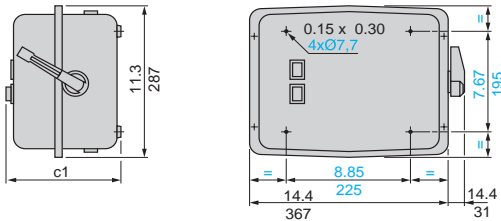
LE4D09 to D35
LE8D09 to D35



	c1		c1	
	LE4K	LE8K	LE4D	LE8D
Standard version	5.74 (146)	5.74 (146)	6.90 (175.5)	7.16 (182)
Version A05	—	5.47 (139)	6.57 (167)	6.57 (167)
Version A05			6.90 (175.5)	6.90 (175.5)

(1) For LE8 only.

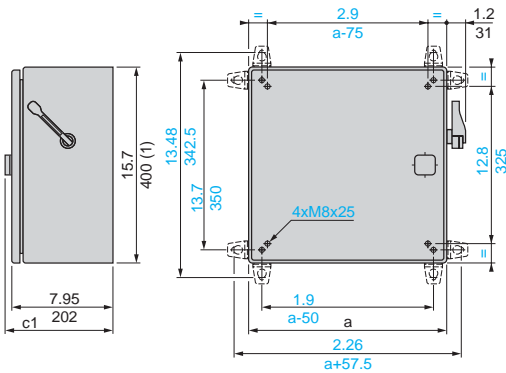
LE4D406 to D656



Dual Dimensions: Inches
mm

	c1
Standard version	7.91 (201)
Version A04	7.48 (190)
Version A05	7.91 (201)

LE2D406 to D806
LE4D806



LE2	a	
D406, D506, D656	11.8 (300)	
D806	15.7 (400)	
LE4	a	
D806	15.7 (400)	
	c1'	
	LE2D	LE4D
Standard version	8.58 (218)	8.58 (218)
Version A05	8.58 (218)	8.58 (218)
Version A11	—	8.58 (218)

(1) + 14 mm with blanking plugs

Knock-outs or Blanking Plugs for Cable Glands

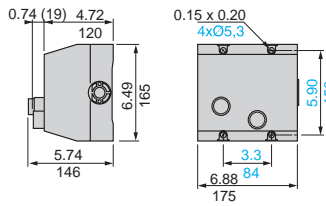
Type of Enclosure	At top		At bottom	
	PG	ISO	PG	ISO
LE4 and LE8D09 to D35	2 x 13 or 2 x 16 or 2 x 21 or 2 x 29	2 x 20 I or 2 x 25 I or 2 x 32 I or 2 x 40 I	2 x 13 or 2 x 16 or 2 x 21 or 2 x 29	2 x 20 I or 2 x 25 I or 2 x 32 I or 2 x 40 I
LE2D09 to D35	1 x 16 or 2 x 21	2 x 20 I or 2 x 25 I	2 x 16 or 2 x 21	2 x 20 I or 2 x 25 I
LE2D406 and LE4D406	1 x 13 and 1 x 21	1 x 20 I and 1 x 25 I	1 x 13 and 2 x 21	1 x 20 I and 2 x 25 I
LE1D506 to D656 and LE4D506 and D656	1 x 13 and 1 x 29	1 x 20 I and 1 x 32 I	1 x 13 and 2 x 29	1 x 20 I and 2 x 32 I
LE2D806 and LE4D806	1 x 13 and 1 x 36	1 x 20 I and 1 x 40 I	1 x 13 and 2 x 36	1 x 20 I and 2 x 40 I
LE4K, LE8K	2 x 13 and 2 x 16	4 x 20 I	2 x 13 and 2 x 16	4 x 20 I

(millimeters x 0.0394 = inches)

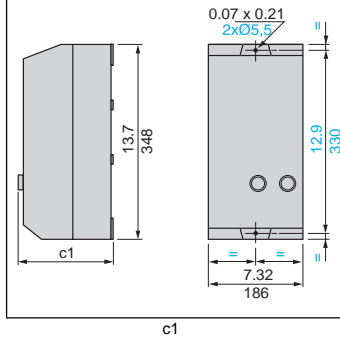
TeSys™ D-Line Contactors and Starters LE-K Dimensions (International Applications Only)

Enclosed K-line Starters Without Fused Disconnect Switch

LE3K065, K095



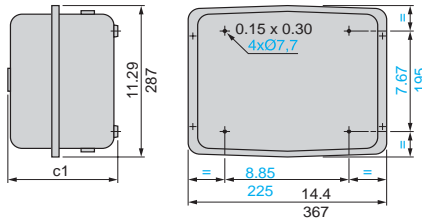
LE3D09 to D35



Standard version	6.90 (175.5)
Version A04	6.57 (167)
Version A05	6.90 (175.5)

LE3D405 to D505

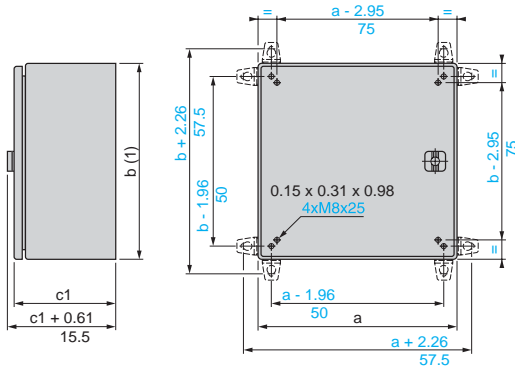
Dimensions shown in millimeters
(millimeters x 0.0394 = inches)



Dual Dimensions: Inches
mm

	c1
Standard version	7.48 (190)
Version A05	7.63 (194)
Version A06	7.63 (194)

LE3D805 to D150



LE3	a	b
D805	15.7 (400)	15.7 (400)
D1155	19.6 (500)	23.6 (600)
D1505	19.6 (500)	23.6 (600)

	c1	LE3D805	LE3D1155, D150
Standard version	7.95 (202)	9.92 (252)	
Version A05	8.58 (218)	-	
Version A06	8.58 (218)	10.55 (268)	

(1) + 14 mm with blanking plugs

Knock-outs or Blanking Plugs for Cable Glands

Type of Enclosure	At top		At bottom	
	PG	ISO	PG	ISO
LE3D09 to D35	2 x 13 or 2 x 16 or 2 x 21 or 2 x 29	2 x 20 I or 2 x 25 I or 2 x 32 I or 2 x 40 I	2 x 13 or 2 x 16 or 2 x 21 or 2 x 29	2 x 20 I or 2 x 25 I or 2 x 32 I or 2 x 40 I
LE3D405	1 x 29	1 X 32 I	1 x 29, 2 x 13 and 2 x 21	1 x 32 I, 2 x 20 I and 2 x 25 I
LE3D505	1 x 36	1 x 40 I	1 x 36, 2 x 13 and 2 x 29	1 x 40 I, 2 x 20 I and 2 x 32 I
LE3D805	1 x 36	1 x 40 I	2 x 13 and 3 x 36	2 x 20 I and 3 x 40 I
LE3K	2 x 13 and 2 x 16	4 x 20 I	2 x 13 and 2 x 16	4 x 20 I

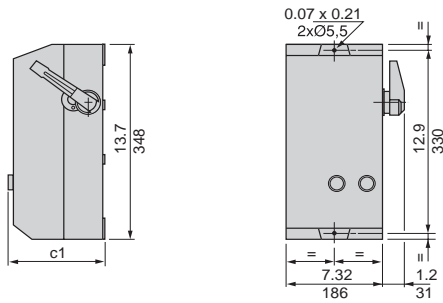
(millimeters x 0.0394 = inches)

TeSys™ D-Line Contactors and Starters

LG1K and LG1D Dimensions (International Applications Only)

Starters Without Isolator

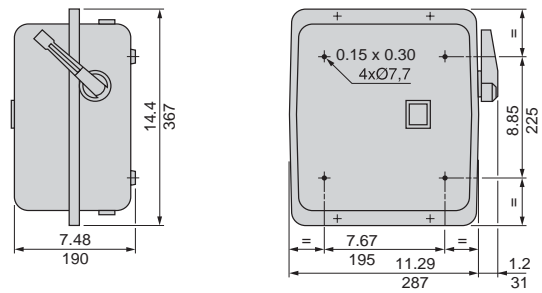
LE6D09 to D18



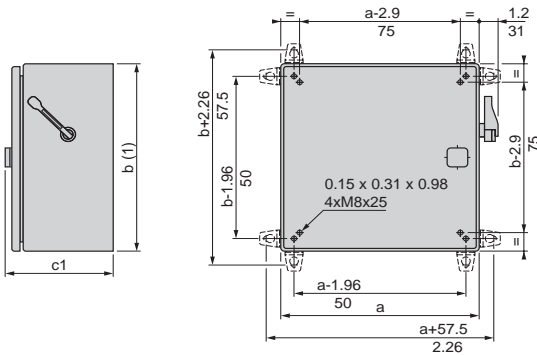
c1

Standard version	6.90 (175.5)
Version A04	6.57 (167)
Version A05	6.90 (175.5)

LE3D326



LE3D406 to D806



Dual Dimensions: Inches
mm

	a	b	c1
LE3			
D406, D506	15.7 (400)	19.6 (500)	8.58 (218)
D806	19.6 (500)	27.5 (700)	10.6 (269)

(1) + 14 mm with blanking plugs

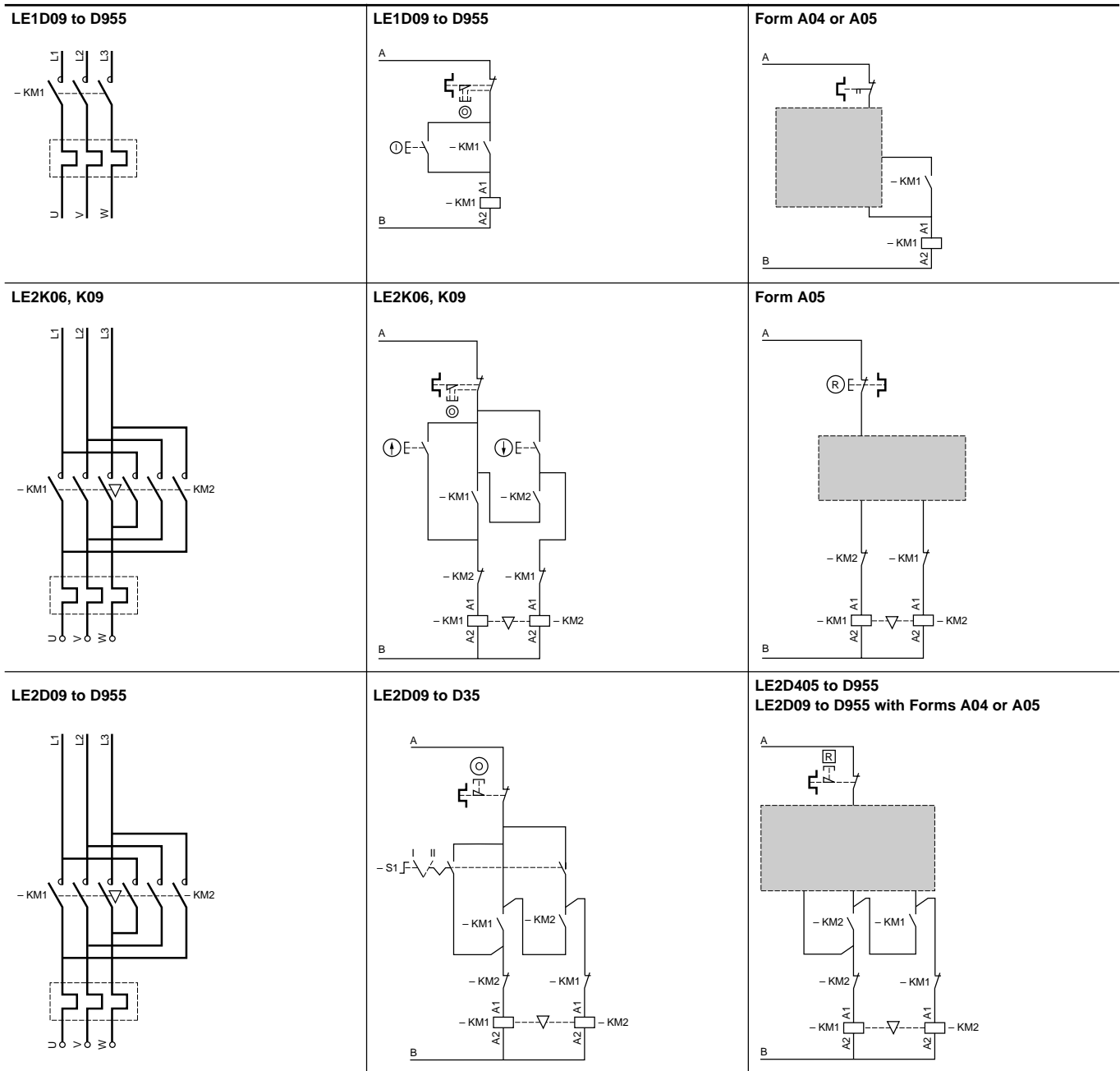
Knock-outs or Blanking Plugs for Cable Glands

Type of Enclosure	At top		At bottom	
	PG	ISO	PG	ISO
LE6D09 to D18	2 x 13 or 2 x 16 or 2 x 21 or 2 x 29	2 x 20 I or 2 x 25 I or 2 x 32 I or 2 x 40 I	2 x 13 or 2 x 16 or 2 x 21 or 2 x 29	2 x 20 I or 2 x 25 I or 2 x 32 I or 2 x 40 I
LE3D326	1 x 21	1 X 32 I	2 x 13, 2 x 16 and 1 x 21	2 x 20 I, 2 x 25 I and 1 x 32 I
LE3D406	1 x 29	1 X 32 I	2 x 13, 2 x 21 and 1 x 29	2 x 20 I, 2 x 25 I and 1 x 32 I
LE3D506	1 x 36	1 x 40 I	2 x 13, 2 x 29 and 1 x 36	1 x 40 I, 2 x 20 I and 2 x 32 I
LE3D806	1 x 36	1 x 40 I	2 x 13 and 3 x 36	2 x 20 I and 3 x 40 I

(millimeters x 0.0394 = inches)

TeSys™ D-Line Contactors and Starters

LE1K and LE1D Wiring Diagrams (International Applications Only)

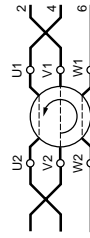
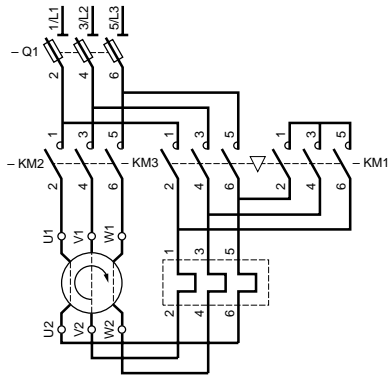


	A	B
220 V, 230 V, 240 V	LE2K, LE1 and LE2D09 and D12	L3 Neutral
	LE1 and LE2D18 to D955	L3 Neutral terminal
380 V, 400 V, 415 V, 440 V	All products	L3 L1
Other voltages	LE1 and LE2D09 to D35	Terminal 1 Terminal 2
	LE2K, LE1 and LE2D405 and D955	Direct connection Direct connection

TeSys™ D-Line Contactors and Starters

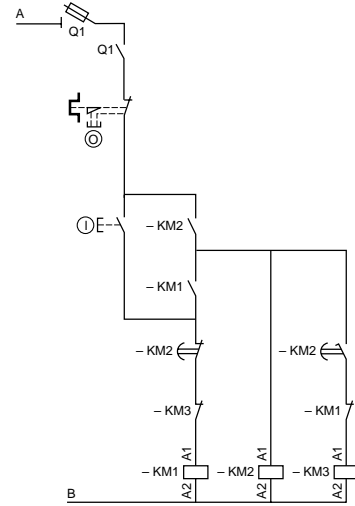
LE2K and LE2D Wiring Diagrams (International Applications Only)

LE6D09 to D18

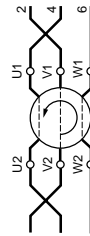
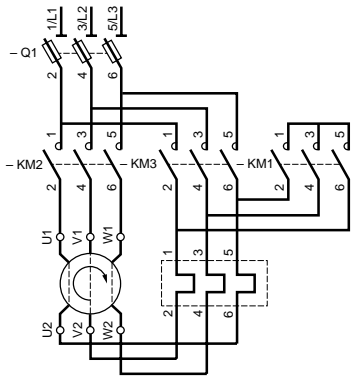


Recommended cabling for reversal of motor rotation (standard motor, viewed from shaft end).

LE6D09 to D18

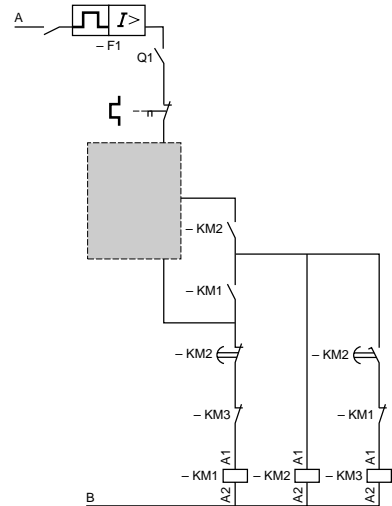


LE3D326 to D806



Recommended cabling for reversal of motor rotation (standard motor, viewed from shaft end).

LE3D326 to D806

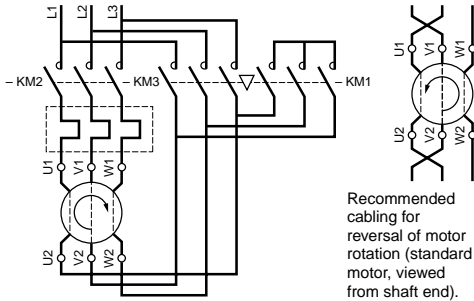


Connections		A	B
220 V, 230 V, 240 V	LE6D09 and D12	L3	Neutral
	LE6D18 to LE3D806	L3	Neutral terminal
380 V, 400 V, 415 V, 440 V	All products	L3	L1
Other voltages	LE6D09 to D18	Terminal 1	Terminal 2
	LE3D326 to D806	Direct connection	Direct connection

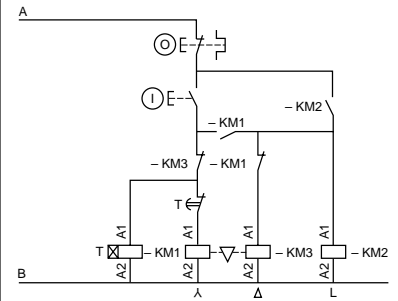
TeSys™ D-Line Contactors and Starters

LE4K, LE4D, LE8K, and LE2D Dimensions (International Applications Only)

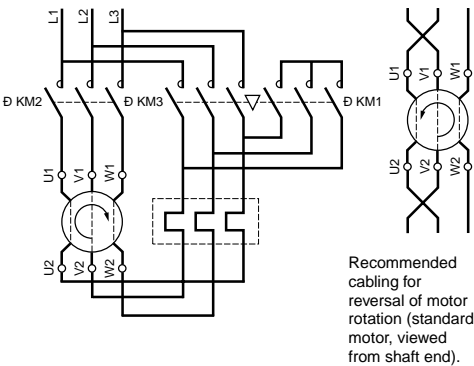
LE3K065 and K095



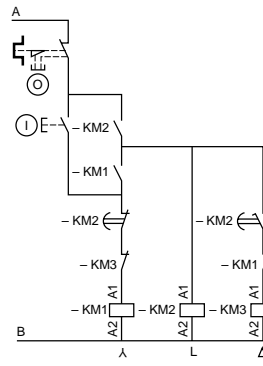
LE3K065 and K095



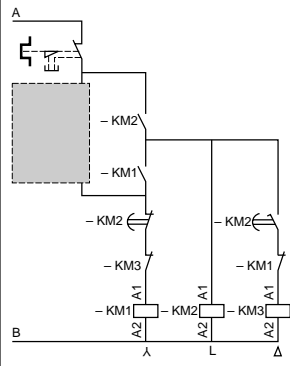
LE3D09 to D805



LE3D09 to D35

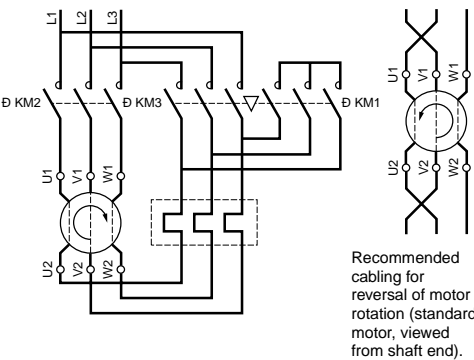


LE3D405 to D805

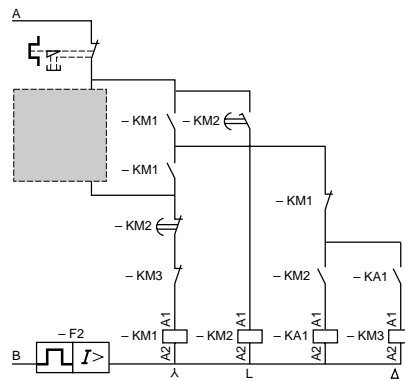


Note: In accordance with current installation regulations, short-circuit protection must be provided by fused or a circuit-breaker.

LE3D115 and D150



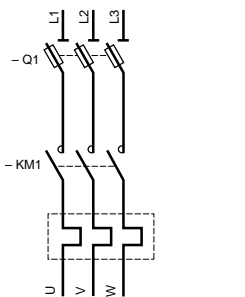
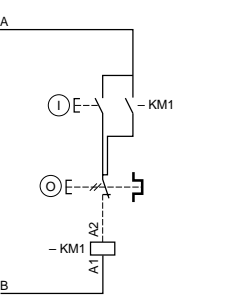
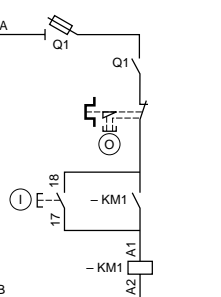
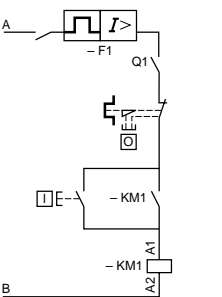
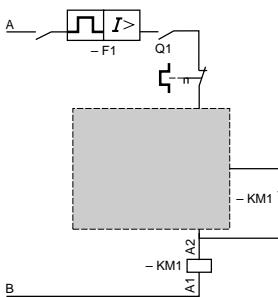
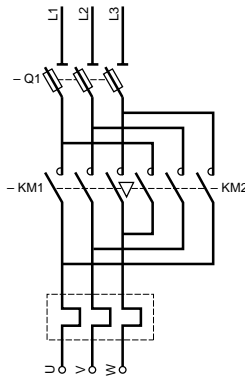

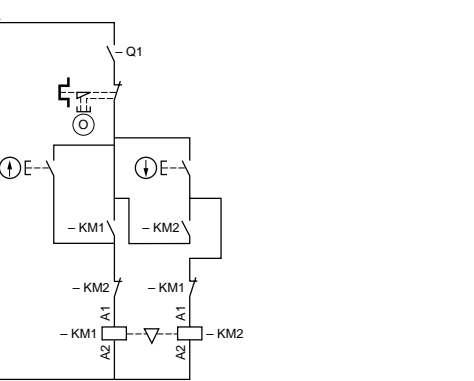
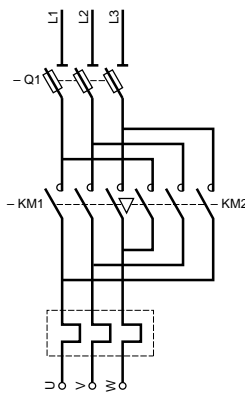
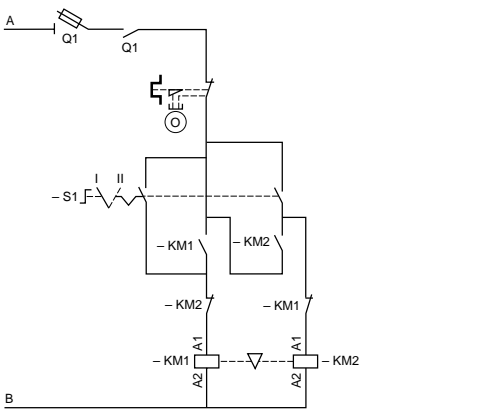
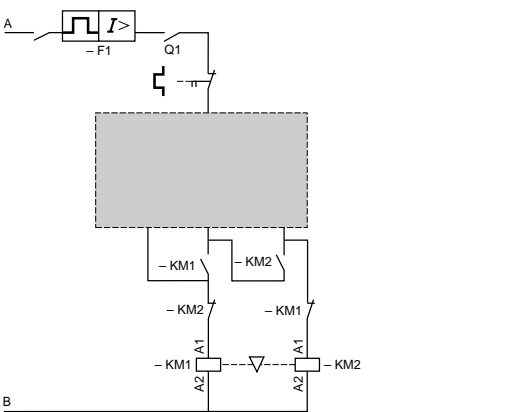
LE3D115 and D150



Connections	A	B
220 V, 230 V, 240 V	LD09 and D12	L3
	LE3D18 to D150	Neutral terminal
380 V, 400 V, 415 V, 440 V	All products	L3
Other voltages	LE3D09 to D35	Terminal 1
	LE3K and LE3D405 to D150	Terminal 2
		Direct connection

TeSys™ D-Line Contactors and Starters

LG1K, LG1D, LG7K, LG7D, and LG8K Dimensions (International Applications Only)

<p>LE4K06, K09 LE4D09 to D806</p> 	<p>LE4K06, K09</p> 	<p>LE4D09 to D35</p> 	<p>LE4D406 to D656</p> 	<p>LE4D806 LE4D09 to D656 with Form A04 or A05</p> 	
<p>LE8K06, K09</p> 	<p>LE8K06, K09</p> 	<p>Form A05</p> 			
<p>LE8D09 to LE2D806</p> 	<p>LE8D09 to D35</p> 	<p>LE2D406 to D806</p> 			
<p>Connections</p>		<p>A</p>	<p>B</p>		
<p>220 V, 230 V, 240 V</p>		<p>LE4 and LE8K, LE4 and LE8D09 and D12</p>	<p>L3</p>	<p>Neutral</p>	
<p>380 V, 400 V, 415 V, 440 V</p>		<p>All products</p>	<p>L3</p>	<p>Neutral terminal</p>	
<p>Other voltages</p>		<p>LE4 and LE8D09 to D35</p>	<p>Terminal 1</p>	<p>Terminal 2</p>	
<p></p>		<p>LE4 and LE2D406 and D806</p>	<p>Direct connection</p>	<p>Direct connection</p>	

TeSys™ D-Line Contactors and Starters Cross-Reference Table

3-Pole AC Contactors(1)

Connection for Cables with or without Cable End		for Ring Terminal Type		for Slip on Connectors	
Old Catalog No.	New Catalog No.	Old Catalog No.	New Catalog No.	Old Catalog No.	New Catalog No.
LC1D0900	LC1D09	LC1D09006	LC1D096	LC1D09009	LC1D099
LC1D0910	LC1D09	LC1D09106	LC1D096	LC1D09109	LC1D099
LC1D0901	LC1D09	LC1D09016	LC1D096	LC1D09019	LC1D099
LC1D1200	LC1D12	LC1D12006	LC1D126	LC1D12009	LC1D129
LC1D1210	LC1D12	LC1D12106	LC1D126	LC1D12109	LC1D129
LC1D1201	LC1D12	LC1D12016	LC1D126	LC1D12019	LC1D129
LC1D1800	LC1D18	LC1D18006	LC1D186		
LC1D1810	LC1D18	LC1D18106	LC1D186		
LC1D1801	LC1D18	LC1D18016	LC1D186		
LC1D2500	LC1D25	LC1D25006	LC1D256		
LC1D2510	LC1D25	LC1D25106	LC1D256		
LC1D2501	LC1D25	LC1D25016	LC1D256		
LC1D3200	LC1D32	LC1D32006	LC1D326		
LC1D3210	LC1D32	LC1D32106	LC1D326		
LC1D3201	LC1D32	LC1D32016	LC1D326		
LC1D3810	LC1D38	LC1D38106	LC1D386		
LC1D3801	LC1D38	LC1D38016	LC1D386		
LC1D4011	LC1D40	LC1D40116	LC1D406		
LC1D5011	LC1D50	LC1D50116	LC1D506		
LC1D6511	LC1D65	LC1D65116	LC1D656		
LC1D8011	LC1D80	LC1D80116	LC1D806		
LC1D9511	LC1D95	LC1D95116	LC1D956		
LC1D11500	LC1D115	LC1D115006	LC1D1156		
LC1D15000	LC1D150	LC1D150006	LC1D1506		



4-Pole AC Contactors (1)

LC1D12004	LC1DT25	LC1D120046	LC1DT256
LC1D12008	LC1D128	LC1D120086	LC1D1286
LC1D25004	LC1DT40	LC1D250046	LC1DT406
LC1D25008	LC1D258	LC1D250086	LC1D2586

(1) Coil voltages: codes to be added to the end of the new catalog numbers

Volts - 50/60 Hz	24	48	220	230	380	400
Voltage Code	B7	E7	M7	P7	Q7	V7

3-Pole DC Contactors (2)

LP1D0910	LC1D09	LP1D09106	LC1D096	LP1D09109	LC1D099
LP1D0901	LC1D09	LP1D09016	LC1D096	LP1D09019	LC1D099
LP1D1210	LC1D12	LP1D12106	LC1D126	LP1D12109	LC1D129
LP1D1201	LC1D12	LP1D12016	LC1D126	LP1D12019	LC1D129
LP1D1810	LC1D18	LP1D18106	LC1D186		
LP1D1801	LC1D18	LP1D18016	LC1D186		
LP1D2510	LC1D25	LP1D25106	LC1D256		
LP1D2501	LC1D25	LP1D25016	LC1D256		
LP1D3210	LC1D32	LP1D32106	LC1D326		
LP1D3201	LC1D32	LP1D32016	LC1D326		
LP1D4011	LC1D40	LP1D40116	LC1D406		
LP1D5011	LC1D50	LP1D50116	LC1D506		
LP1D6511	LC1D65	LP1D65116	LC1D656		
LP1D8011	LC1D80	LP1D80116	LC1D806		
LP1D11500	LC1D115	LC1D115006	LC1D1156		
LP1D15000	LC1D150	LC1D150006	LC1D1506		

4-Pole DC Contactors (2)

LP1D12004	LC1DT25	LC1D120046	LC1DT256
LP1D12008	LC1D128	LC1D120086	LC1D1286
LP1D25004	LC1DT40	LC1D250046	LC1DT406
LP1D25008	LC1D258	LC1D250086	LC1D2586

(2) Coil voltages: codes to be added to the end of the new catalog numbers

Volts dc	24	48	72
Voltage Code	BD	ED	SD



TeSys™ D-Line Contactors and Starters

Cross-Reference Table

3-Pole Contactors, Low Consumption (1)

Connection for Cables with or without Cable End		for Lugs or Bars		for Faston Connectors	
Old Catalog No.	New Catalog No.	Old Catalog No.	New Catalog No.	Old Catalog No.	New Catalog No.
LP4D0910	LC1D09				
LP4D0901	LC1D09				
LP4D1210	LC1D12				
LP4D1201	LC1D12				
LP4D1810	LC1D18				
LP4D1801	LC1D18				
LP4D2500	LC1D25				

3-Pole Reversing Contactors, Low Consumption (1)

LP5D0910	LC2D09
LP5D1210	LC2D12
LP5D1810	LC2D18
LP5D2500	LC2D25

(1) Coil voltages: codes to be added to the end of the new catalog numbers

Low Consumption Volts	24	48	72
Code	BL	EL	SL

3-Pole Reversing Contactors, AC

LC2D0901	LC2D09	LC2D09016	LC2D096	LC2D09019	LC2D099
LC2D1201	LC2D12	LC2D12016	LC2D126	LC2D12019	LC2D129
LC2D1801	LC2D18	LC2D18016	LC2D186		
LC2D2501	LC2D25	LC2D25016	LC2D256		
LC2D3201	LC2D32	LC2D32016	LC2D326		
LC2D3801	LC2D38	LC2D38016	LC2D386		
LC2D4011	LC2D40	LC2D115006	LC2D1156		
LC2D5011	LC2D50	LC2D150006	LC2D1506		
LC2D6511	LC2D65				
LC2D8011	LC2D80				
LC2D9511	LC2D95				
LC2D11500	LC2D115				
LC2D15000	LC2D150				

4-Pole Changeover Contactors, AC

LC2D12004	LC2DT25	LC2D120046	LC2DT256
LC2D25004	LC2DT40	LC2D250046	LC2DT406

3-Pole Reversing Contactors, DC

LP2D0901	LC2D09	LP2D09016	LC2D0906	LP2D09109	LC2D099
LP2D1201	LC2D12	LP2D12016	LC2D126	LP2D12019	LC2D129
LP2D1801	LC2D18	LP2D18016	LC2D186		
LP2D2501	LC2D25	LP2D25016	LC2D256		
LP2D3201	LC2D32	LP2D32016	LC2D326		

4-Pole Changeover Contactors, DC

LP2D12004	LC2DT25	LP2D120046	LC2DT256
LP2D25004	LC2DT40	LP2D250046	LC2DT406

Contact Blocks

LA1DN10	LADN10	LA1DN11M	LA1DN11G	LA2DT0	LADT0
LA1DN01	LADN01	LA1DN11P	LADN11P	LA2DT2	LADT2
LA1DN11	LADN11	LA1DN11G	LADN11G	LA2DT4	LADT4
LA1DN20	LADN20	LA1DN22M	LADN22G	LA2DS2	LADS2
LA1DN02	LADN02	LA1DN13M	LADN22G	LA3DR0	LADR0
LA8DN11	LAD8N11	LA1DN31M	LADN31G	LA3DR2	LADR2
LA8DN20	LAD8N20	LA1DN22P	LADN22P	LA3DR4	LADR4
LA1DN22	LADN22	LA1DN13P	LADN31P		
LA1DN13	LADN13	LA1DN31P	LADN31P		
LA1DN40	LADN40	LA1DN22G	LADN22G		
LA1DN04	LADN04	LN1DN11	LADN11		
LA1DN31	LADN31				
LA1DC22	LADC22				

TeSys™ D-Line Contactors and Starters Cross-Reference Table

Thermal Overload Relays



For Use with Balanced Loads		For Use with Unbalanced (Single Phase) Loads		For Use on 1000V Supplies	
Old Catalog No.	New Catalog No.	Old Catalog No.	New Catalog No.	Old Catalog No.	New Catalog No.
LR2D1301	LRD01	LR3D1301	LR3D01	LR2D3301A66	LRD3301A66
LR2D1302	LRD02	LR3D1302	LR3D02	LR2D3302A66	LRD3302A66
LR2D1303	LRD03	LR3D1303	LR3D03	LR2D3303A66	LRD3303A66
LR2D1304	LRD04	LR3D1304	LR3D04	LR2D3304A66	LRD3304A66
LR2D1305	LRD05	LR3D1305	LR3D05	LR2D3305A66	LRD3305A66
LR2D1306	LRD06	LR3D1306	LR3D06	LR2D3306A66	LRD3306A66
LR2D13X6	LRD06	LR3D13X6	LR3D06	LR2D33X6A66	LRD33X6A66
LR2D1307	LRD07	LR3D1307	LR3D07	LR2D3307A66	LRD3307A66
LR2D1308	LRD08	LR3D1308	LR3D08	LR2D3308A66	LRD3308A66
LR2D1310	LRD10	LR3D1310	LR3D10	LR2D3310A66	LRD3310A66
LR2D1312	LRD12	LR3D1312	LR3D12	LR2D3312A66	LRD3312A66
LR2D1314	LRD14	LR3D1314	LR3D14	LR2D3314A66	LRD3314A66
LR2D1316	LRD16	LR3D1316	LR3D16	LR2D3316A66	LRD3316A66
LR2D1321	LRD21	LR3D1321	LR3D21	LR2D3321A66	LRD3321A66
LR2D1322	LRD22	LR3D1322	LR3D22	LR2D3322A66	LRD3322A66
LR2D2353	LRD32	LR3D2353	LR3D32		
LR2D2355	LRD35	LR3D2355	LR3D35		
LR2D1508	LRD1508				
LR2D1510	LRD1510				
LR2D1512	LRD1512				
LR2D1514	LRD1514				
LR2D1516	LRD1516				
LR2D1521	LRD1521				
LR2D1522	LRD1522				
	LRD1530 (1)				
LR2D2553	or				
	LRD1532 (1)				
LR2D3322	LRD3322	LR3D3322	LR3D3322		
LR2D3353	LRD3353	LR3D3353	LR3D3353		
LR2D3355	LRD3355	LR3D3355	LR3D3355		
LR2D3357	LRD3357	LR3D3357	LR3D3357		
LR2D3359	LRD3359	LR3D3359	LR3D3359		
LR2D3361	LRD3361	LR3D3361	LR3D3361		
LR2D3363	LRD3363	LR3D3363	LR3D3363		
LR2D3365	LRD3365	LR3D3365	LR3D3365		
LR2D4365	LRD4365				
LR2D4367	LRD4367				
LR2D4369	LRD4369				

(1) Depends on actual Full Load Current.

TeSys™ D-Line Contactors and Starters